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IN TWO VOLUMES ANNUALLY.

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A Course of Lectures
ON
SURGICAL MANIPULATION;[*]

EXPLAINING THE USE AND METHOD OF EMPLOYING THE VARIOUS KINDS OF BANDAGES, INSTRUMENTS, AND APPARATUS,

SO ARRANGED AS TO FORM A CONCISE INTRODUCTION TO THE PRACTICE OF OPERATIVE SURGERY, AND ACCOMPANIED BY DESCRIPTIVE ENGRAVINGS.

By EDWARD F. LONSDALE,
Fellow of the Royal College of Surgeons, Assistant-Surgeon to the Royal Orthopædic Hospital.

LECTURE I.

Introductory Remarks.

GENTLEMEN—I have the honour, this afternoon, to commence a course of lectures, on a branch of surgery which, I trust, you will all think of sufficient importance for your consideration, and to possess a degree of interest, to make it worthy of taking some pains to become practically acquainted with. If I may be allowed to give my own opinion, founded upon what experience I have had of my profession, I should say, that the subject which I have to treat is one that all should possess a thorough knowledge of, and one requiring more practical acquaintance with than many other branches of surgery; for it is one that the surgeon is most constantly called upon to consider, and therefore most imperatively required to understand. Whether we take the student, as a dresser at an hospital, or as an assistant during his apprenticeship, (more particularly in the country,) or as house-surgeon to an hospital—an office which, without exception, I say is the most important and valuable one he can possess, and one which all should be desirous to obtain—or as the surgeon in active practice, they are, one and all, constantly called upon to make use of the bandages or instruments, either as therapeutical agents, (for such some of them are) or as mechanical agents only, or as an important adjunct to many, if not most, of the operations which are required in the wide, and varied, and most interesting field of surgery.

You must know how to use your hands, gentlemen; you are called surgeons because you have to use them; you cannot be surgeons without them. You are not only called upon to bandage, but to know how to use the various instruments employed in surgery, and not merely their use, but their mechanism; to know that their shape and construction are such as to gain the desired end. You should, to a certain extent, be mechanists as well; for you must not consider the facilities which public institutions offer with regard to procuring all instruments, (and even here there are often cases in which you have to exercise your own ingenuity to meet particular emergencies,) but you must and often will be placed in positions in private practice, more particularly in the country, where you will have to invent for yourselves, and will find that the mechanical part of surgery is of an importance not to be despised.

I much fear that this branch of surgery, if not altogether neglected, has but very little attention paid to it by students, and that many, if not the majority, enter practice, having only heard of the names of most of the instruments and bandages employed, or if they have seen them, have not taken the trouble to examine their construction, or to make themselves practically acquainted with them. How, then, is it possible that they should understand their application? or how is it likely that they should be able to employ them with advantage to their patients, or credit to themselves?

By the mechanical part of surgery, is meant nothing more than the employment of certain instruments or apparatus, which more easily enable the surgeon to obtain the desired end, namely, the cure of the disease, injury, or deformity, which is under treatment. In fact, the whole of the operative part of surgery is, to a certain extent, mechanical, only with this important peculiarity, that it requires a thorough knowledge of the anatomical structure of the human body, and to know the laws regulating the different functions, to make the surgeon a scientific and successful operator rather than a mere empirical mechanic.

In laying so much stress on the mechanical part of surgery, and in describing to you the various instruments and apparatus that are employed, I wish distinctly to be understood as to the value put upon it, and the degree of importance I wish to attach to it. I mean nothing more then, than to state, that all those who practise surgery should endeavour to make themselves thoroughly acquainted, first of all, with the necessity of using instruments or apparatus, in certain injuries, diseases, and deformities, and secondly, with the nature, use, and best mode of employing them, when convinced of their necessity, and to bear constantly in mind that operative surgery does nothing more (or ought to) than relieve nature by the removal of any part that is destroying the health and interfering with important functions, and to assist nature by giving direct mechanical support, as in the treatment of fractures, deformities, &c.

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[*] Strictly speaking, the term surgical manipulation is tautology; but it is admissible, considering the present acceptation of the word surgery.

It is not because surgery in the present day holds so high a rank (and justly so) in medical science, nor because so large a class of diseases now come under the care of the surgeon, which formerly were considered to belong to the province of the physician, that you are to neglect those branches of it which, in earlier times, were intrusted to the ignorant and unscientific: for in this, as in all other departments of art or science, you will find that as education has advanced, and knowledge has increased, complexity has given place to simplicity, and difficulties have been with facility overcome, which were before thought to be insurmountable. The advancement of science, or, in other words, knowledge, and its application, have done that for the mechanical part of surgery which it has done for the therapeutical part of medicine—namely, swept away useless and complicated machines and instruments, and inert and obnoxious drugs, and given place to others of more easy application, and of more certain employment —in fact, the object to be gained is with more certainty known, the means to be employed are with more certainty understood, and the result to be expected is with more certainty anticipated—all of which resolves itself into this fact—that diseases are with more certainty cured.

In the foregoing remarks there are two important points to bear in mind. I mean, the object you should have in view, and the means to be employed to gain that object, and these include many points which at once render this branch of surgery equal in importance with any other, and one that I hope to show is worthy of equal attention, and therefore deserving of the surgeon's serious consideration.

The object to have in view in the treatment of all surgical diseases and injuries, in which you employ mechanical means, is similar to that in all other branches of medicine or surgery—namely, to reinstate the patient in his former health, or to rectify the deformity and injury that may exist, or may have been inflicted. Now with regard to the peculiar branch of surgery which I have in the present course of lectures to treat of, there are many points which have to be considered; first, as general principles applying to all cases; secondly, as peculiar, and referring to those cases immediately under treatment.

Surgical instruments or apparatus, of whatever kind they may be, ought to be employed in those cases only where disease or injury, or both, have so affected the part, that Nature herself is unable to repair it, and medicine is found not only to be unfitted for, but to be totally incapable of offering any chance of relief. Something more, then, is required; and here the operative and mechanical parts of surgery are brought to aid. If there be disease existing, or abnormal growths, or deformities, or injuries, the knife, the ligature, bandages, and various kinds of instruments or apparatus, may be required, to remove the disease or deformity on the one hand, or to redress and repair the injury on the other.

I need not remind you how important it is to well consider, in the employment of all kinds of surgical instruments and apparatus, the nature of the case for which you have determined to use them. You must remember that you have to deal with living parts, and that whether it be the knife or any other sharp instrument you are employing, or a bandage, splint, or other apparatus, that you may, by ignorance and carelessness, not only cause, in many cases, direct injury to the parts with which your instruments come in contact, by producing abrasion of surface, inflammation, ulceration, sloughing, &c., but may also, in some cases, endanger the patient's life, if not be the cause of the loss of it, as when the knife and other sharp instruments are employed, by wounding vessels, which, if not properly secured, to prevent the too great flow of blood, may, either directly or indirectly, be the means of bringing the patient to such a state of exhaustion that it may be difficult, if not impossible, to recover him from. The anatomical and physiological knowledge of the human body are as much required to enable the surgeon to employ mechanical means with success in the treatment of diseases or injuries, as they are by the physician, to enable him to point out the nature of the complaint for which he administers his drugs, as well as the functions of the different organs which naturally influence the varied secretions upon which his medicines are intended to act.

The simple operation of putting a bandage round the leg or arm cannot be done without at once interfering with the circulation of the limb, if the physiology of the circulation itself be not understood; for if the bandage be made to press more on the upper than lower part, it will of course obstruct the return of the blood from thence, as it is from the extremities of the limb that the blood is returning in its course to the heart. The practical rule deduced from the knowledge of this fact is, of course, evident—namely, that the bandage must press less and less as it ascends towards the upper part of the limb.

In the treatment of fractures and dislocations, the anatomy and physiology of the muscles must be known, if you wish to apply your mechanical means with success, for the proper position of the limb, and the application of the splints and bandages to keep the ends of the bone from being drawn out of place, can only be gained by a knowledge of the various muscles, and their particular mode of action, both on the joints with which the fractured bone is connected, as well as upon the fractured ends of the bone themselves. In former days, when this important class of injuries was entrusted to people who were totally ignorant both of anatomy and physiology, it must have been deplorable to have seen the effects of their treatment; for when we consider that the only chance of bringing a fractured bone into position is by knowing the action of the muscles which are causing the displacement, it is easy to conceive how many fractures must have remained unreduced, and how frightful must have been the deformities after the so-called cure.

In the works of Ambrose Paré, in which there is so much good as well as curious surgery, there are opinions, with regard to the treatment of fractures, which surprise us, as coming from a man who no doubt was in every sense of the word a sound surgeon. I shall extract the passage from his book on Fractures, as a specimen of what may be called pure mechanical surgery. He says—

"Sometimes the surgeon is constrained to use machines, as for old luxations, and for fractures and luxations of the great bones, and in robust subjects, with great joints, because the force which is then required cannot oftentimes be made by the sole hand of the surgeon; for so much the more the muscles are strong and powerful, so much have they more force and disposition to draw themselves towards their origin, on which account we are constrained to use machines, because the hands of the surgeon are not sufficient to pull and to reduce such fractures and luxations. It is always necessary to take care not to pull too hard, for fear of causing accidents, such as tearing the muscles or nerves, and causing pain, gangrene, convulsions, and paralysis, and other accidents, which happen more to the robust and old than to young people, because they are less hurt than old people when they are strongly pulled, on account of their frame being moist and soft; for in the same way we can pull leather when it is soft and moistened, but when it is hard and dry it breaks soon; so is it with the muscles, nerves, and ligaments; for when they are moist and soft, they yield, and do not break easily; but when they are dry and hard, they cannot stretch without great force, and even if a small force be applied the nerves and muscles break. This does not occur in young people, and generally in all those who have the flesh soft and moist, such as children, women, and eunuchs."

Now here the muscles are treated like so many strings and cords, the only point to be considered with regard to them being, that you are to take care not to pull too hard, for fear of breaking them. There is no consideration paid to placing the joint so as to bring the limb in a position that at once relaxes all those muscles, which are the very obstacles to the reduction of the bone, and the only possible way of avoiding the necessity of employing such a degree of force as M. Ambrose Paré talks of. It is the anatomy and physiology of the muscles, then, which require to be known to guide the surgeon in the successful employment of his mechanical means in the treatment of fractures and dislocations, and which make him the man of science rather than the empiric and the ignorant surgeon.

I will quote another case, from Wiseman's work on Surgery, (surgeon to Charles the Second,) to show how curious a method of treatment may be employed, (by which I mean unscientific,) owing to a want of knowledge of the simple physiological laws that govern the action of the muscles which are connected with the bones, as well as of the mechanism of the skeleton. I refer to a case of fractured clavicle, detailed in his work. He commences his case by saying that—"A page attending a noble family, riding behind the coach, fell down, bruised his face, and broke his right collar-bone." After describing the symptoms of the injuries of the face and of the clavicle, he continues—

"All things being in this hopeful condition, we advised him to keep his bed, and left him to observe the directions of his physician, by whose prescription a clyster was administered that evening, which he voided into a white earthen chamber-pot, which his chirurgeon looking into, called it blood, and alarmed his friends; but a discreet person looking afterwards upon it, concluded it only the clyster, tinctured with red sugar, hiera picra, &c. I, being soon after fetched, confirmed the same, and appeased that clamour. About the tenth day, our chirurgeon, contrary to former order, undressed the fractured clavicle, upon whose binding it too slack, the bone started, and from that time it grew painful, so that he dressed it again four or five days after; but the pain increasing the more, I was fetched, and upon opening, saw one end of the clavicle riding over the other, and pricking against the skin. The callus being confirmed, the patient was removed from his chirurgeon's house to his mother's, in the city, where, being in great pain, his chirurgeon dressed him again, and the straighter he made the bandage, the greater was the pain. He, not imagining the cause, imputed the fault to the unruliness of the patient, and declared that the fracture was yet in the bone, and that it was incapable of cure, upon which I was sent for; and seeing the pain to proceed from the end of the fractured bone pricking in the skin, and the more when it was bound, I caused half a walnut-shell to be plastered over it; and having thereby defended it from pressure, he made use of his arm, and complained no more of pain. I then designed to cut off that end of that bone, if it again pained him; but from that time it continued easy, and he recovered the use of the arm very soon."

Now this case is curious, as showing the difficulty there appeared in comprehending the cause of this prominence of the fractured end of the bone, as well as the ignorance of the easy and simple method of relieving it, all that is requisite being to place a firm pad in the axilla, to act as a fulcrum; to make the humerus act as the lever, and then, by bringing the elbow before the chest, the outer portion of bone must be pulled outwards, and the prominent end be apparently reduced immediately. You have only to keep the elbow in this position, and the cure is certain and easy.

There is a class of deformities which has lately had much attention paid to it, for the treatment of which mechanical means are employed, as forming *one* of the most essential parts of the cure: I refer to club feet, and contractions of every kind, which are now more generally included under the head of orthopædic surgery. Without proper mechanical apparatus there would be no chance of relieving any of those deformities which have in many instances existed from birth, and in others for a length of time, having their origin in disease. But the treatment in these cases has a higher claim than that of being purely mechanical, for without the division of those tendons connected with the muscles which are keeping up the contraction, and therefore continuing the existence of the deformity, no cure could be effected. The knife must therefore be used, and here, as in other operations in surgery, the surgeon must know the anatomy of the muscles, arteries, and nerves, for it is with them that he has to deal, and must possess as much skill as an operator for this as for other operations which he has to perform.

From the earliest times, no doubt, deformities have existed, and have, no doubt, been treated by mechanical means, but by mechanical means only, and the result has been what might be expected—namely, that they have been treated ineffectually. But now, and I speak from actual observation which I have had opportunities of making on a very large number of cases, from being connected with an institution solely for their treatment, the majority of those frightful deformities which render those afflicted with them cripples for life, often objects of ridicule to others, as well as constant sources of misery to themselves, are certain of cure. The deformity can be removed, the patient rendered a useful member of society, and his mind relieved from the never-ceasing anxiety, the consciousness of his affliction must have caused. I hope you will not think me saying too much, if I class the advancement that has been made in this branch of surgery as one of the greatest of modern times.

These extraordinary cures, however, are not made by mechanical means only, but must have the assistance of the surgeon's knife as a preliminary step; certain obstacles have to be overcome before your mechanical force can be made to act. These obstacles are the various muscles which tend by their action, either from birth, or from disease in after-life, to keep the joint in the deformed position, which was given to it in utero from mechanical pressure, or from disease or injury afterwards.

The operation required for these cases, before the mechanical apparatus is applied, is very simple, at the same time that it is most effectual. It consists in passing a fine knife beneath the tendon of the muscle or muscles which are keeping the joint in the contracted position, and then dividing it from below upwards, while an assistant makes extension in the limb or joint affected. As soon as the tendon is divided, it is felt distinctly to give way as the two ends separate, the end connected with the muscle being retracted. The other end is then brought as close to it as possible, by placing the joint in its original deformed position for a week or ten days, till union has sufficiently advanced to allow of the continuity of the two ends being established. The mechanical means are then employed, so as gradually to overcome the ligaments, and to stretch the uniting medium of the two ends of the tendon, which ultimately becomes converted into a substance as strong as the rest of the tendon—in fact, a new portion of tendon is formed. The different kinds of apparatus required for these cases I shall show you at a future lecture. There is a preparation on the table, which I shall send round, showing how firmly a tendon can unite. It was taken from a boy, operated on by Mr. Tuson, for a case of talipes equinus, or horse-foot, as it is called. It was a very severe case of the deformity, the heel being raised fully three inches from the ground; the tendo-Achilles was divided about two inches from its insertion into the os calcis. The deformity was quite cured, and the boy was walking about with the heel flat on the ground; he, unfortunately, however, was attacked with scarlet fever at the end of four months, of which he died. The preparation is exceedingly interesting, and a very valuable one, as showing the formation of the new tendon, and the perfect restoration by the junction of the two ends, which, in fact, was so strong and perfect, that it was difficult to feel where the division had been made, and had the boy lived, the limb would ultimately have been as useful as the other.

The operation is as harmless as it is simple, for out of the hundreds of cases in which the divisions of the various tendons have been performed since the Orthopædic Hospital has been established, I am not aware of a single untoward event having occurred, clearly proving that neither local nor constitutional irritation need be feared, nor advanced as reasons against the operation being performed. Even in young infants the operation is perfectly harmless. A short time ago, a child, only three weeks old, was brought to me with double club-foot, both feet being completely inverted, and the contraction very rigid. I divided the tibialis posticus and anticus, and tendo-Achilles, in each leg, at the same operation, making a division of six tendons altogether. Not a bad symptom followed; there was no constitutional disturbance, and all the wounds healed without the slightest inflammation arising. But I need not quote cases, because experience has fully confirmed the fact, that the mere division o tendons is a perfectly harmless operation, and one that may be performed with impunity at all periods of life.

As I have already stated, there is no class of cases which so well illustrates the use and adaptation of mechanical means as the different kinds of deformities, yet, strange to say, there are those to be found who still run down this branch of surgery, and all but deny its utility.

It is interesting, in all branches of science, to learn what has been done in the earliest ages; to know if, centuries ago, men's minds took the same view with regard to certain subjects, or if they adopted the same means to gain certain ends which we do in the present day. It is so with medicine and surgery, and as a general rule we no doubt may consult the earliest writers on these branches of science, and gain much valuable information, by making a proper use of the experience we so gain, by observation and attention to the labours of those who have gone before us, being careful to weed the merely curious, and to preserve the good that may be contained in their works. We should accept those points only which experience has established as facts, cherish and take the realities to exercise our reason upon, and leave the visions to those whose minds seem more inclined to theory, and prone and apparently more anxious for the marvellous.

With regard to the branch of surgery on which I have to give a few lectures, I do not believe that much information can be gained from early writers, for as most of the operations have been improved upon by the advancement of the sister sciences, anatomy and physiology, rudeness in the performance, and uncertainty in their cure, have given way to simplicity and certainty. It is so with bandages and the various kinds of apparatus and instruments; many old and complicated ones are no longer employed, and new ones have been invented, and now supersede them. There is, however, much curious matter to be found, even in reference to this branch of surgery, in the works of the older authors, which may interest those who choose to consult them. To those who may be so inclined, they will find in M. Gerdy's work, (the most complete on the subject of bandaging,) the history of bandages arranged under so many different periods, with reference to the numerous works, both ancient and modern.

I shall arrange the division of these lectures in two parts. The first, including the description of the different kinds of bandages used as bandages only, together with the various kinds of apparatus in which bandages of one sort or another form a very essential part, as in fractures and dislocations, treatment of deformities, &c. The second will include the description of the various instruments, cutting and otherwise, used in the *operations*, properly so called. It will be my endeavour so to arrange the subject, that the use, mechanism, and mode of application of the various kinds of instruments and apparatus employed, may be so explained as to form a concise introduction to the practice of operative surgery, with brief observations on the particular cases for which their use is required.

I need not dwell upon the importance of knowing how to employ the many kinds of bandages, and how to use the various instruments; for in all operations, the one or the other, or both, are brought into requisition, rendering it essential that the surgeon should be thoroughly acquainted with them if he wish to be a successful and skilful operator, including, of course, expertness and neatness.

General Observations on Bandaging.

Bandages are made of various kinds of material, and I use the term in its most extended sense, including the various kinds of straps, rollers, and apparatus of peculiar constitution, the object of of which is either to confine and fix a part of the limb, or the whole of it, so as to render it immovable upon the rest of the body. There are other kinds of bandages that are connected with some peculiar apparatus, which are only employed for special cases of injuries or deformities, and which fix the various parts of it one to the other, and retain the whole in position.

The most useful kinds of bandages are those composed of common white calico, for this material can be made to lie very neatly and flatly upon the surface of the limb. They have, perhaps, one fault, which is, that they possess no elasticity. Cases, however, requiring elastic bandages are not numerous, and there are different kinds, made of elastic materials, which can be obtained when required. The objection to elastic bandages generally is, that they are most of them thick and hot, and liable, in some people, to produce irritation of the skin; whereas the calico bandage is thin and cool, and admits, as before stated, of being closely and neatly applied. Bandages made of flannel are only useful when increased warmth is required, for they are so highly elastic that they can do little in the way of confining splints, or supporting the surface of a limb; besides which they are thick and cumbersome. Some surgeons employ the unbleached calico; it is, however, thicker, and does not lie so evenly or neatly as the thinner kind.

Bandages, when properly applied, effect many most important objects, and they are more numerous than might be supposed. In the first place, for almost all wounds which are inflicted, either by accident, or by the surgeon in the various operations which he has to perform, bandages are called into requisition to keep the plasters and dressings in place, as well as to aid in bringing the edges of the wound together, and in keeping them in contact when once placed in apposition. Secondly, they are employed to equalize the circulation of the limb, by making gradual and equable pressure on the superficial veins, and so preventing swelling, œdema, and other evil consequences that would arise, were the constriction made in one part more than another. Thirdly, they are employed to prevent spasm of the muscles from coming on, or to overcome it when it exists, by confining the limb in a position that tends to relax those muscles which are disposed to act spasmodically. Fourthly, they protect the skin from irritation and friction, in cases where it is requisite to employ instruments and apparatus made of hard, unyielding materials, such as splints and straps, in the treatment of fractures and dislocations, and various kinds of deformities. Fifthly, they are used for special purposes, being composed of one, two, or more pieces, according to the object for which they are employed, and are distinguished by names referable to their peculiarity; or they form essential parts of the whole apparatus, as in the case of the various splints, &c. Sixthly, bandages are employed to assist the absorption of various kinds of tumours, whether produced by an increased or unnatural secretion of fluid, or from enlargement and induration of a part, as in the cases of cysts, chronic abscesses, or glandular and other swellings. Experience tells us that in these cases nature is often assisted by artificial pressure, judiciously applied, and that the cure is much facilitated, which, without such means, would be rendered more tedious and protracted, is not altogether ineffectual.

Owing to the many different shapes, and to the variety of purposes for which bandages are employed, it has been found necessary to make some kind of classification of them, in order to facilitate their description, as well as to aid the memory. I need not say that the simpler the classification is, the better. There are many authors, and French surgeons in particular, who make the description of this branch of surgery a great deal too complicated. They, in my opinion, dwell upon too many minutiæ, as referable to particular kinds of bandages.

The description I shall give you of the various kinds of bandages will be divided into two parts: firstly, I shall enter upon the different points which are of importance to be regarded as applicable to all kinds of bandages, as general principles to bear in mind; secondly, I shall consider the particular kinds of bandages, arranging their description according to the various parts to which they are applied: for instance, beginning with those of the head, proceeding to those of the trunk, and lastly those of the extremities; explaining to you afterwards the application of the different kinds of splints and apparatus for fractures and dislocations, &c.

You will of course always ascertain that the kind of bandage you are about to employ is one fitted for the purpose for which you intend to use it. If it be the simple roller, you must see that it is made of the proper material, of a right width, and of sufficient length; or if the bandage be composed of more than one piece, and of a more complicated nature, so as to be called a special apparatus, you must of course, first of all, make yourself acquainted with its construction and with its mode of application, which is easily done either by examination or by trial on another person. And this is a point which can always be attained, and at the same time one that I believe is seldom or never practised. Perfection in the application of bandages, like all other things in which the hands are principally employed, cannot be arrived at without long practice and continued repetition of the same thing. Now the practice of this particular branch of surgery can always be obtained, for if you cannot get patients you can always procure another person to practice on, which cannot be done in most of the operations in surgery, for in them pain is a general accompaniment. Not so with the application of bandages and the various kinds of splints, &c.; their application gives no pain, and the practice is equally as good, in the majority of instances, on a person who is not a patient as on a patient himself. In fact, I may say there is no excuse for the student who says that he cannot bandage; for I repeat it again, that if he cannot get a patient, he can always get a fellow-student, or some other person, who will answer the purpose quite as well as the patient himself. My advice, then, is, that those who do not become dressers to hospitals, and who otherwise have not opportunities of practising the application of bandages on patients, should practise upon others, and do so till they find they understand the principle on which they act, and the method of applying them; for you will find that one practical application of a bandage will be of more service for retaining the principle of their manipulation on your memory than twenty readings of the descriptions for so doing in books. Take the book in your hand, and afterwards the bandage, and then your reading will be of service to you. I should, however, advise all those who have the opportunity, to become dressers to an hospital, as it is there, and there only, that the student can become really expert, though he may by other means become acquainted with the principle, and be able to apply bandages comparatively well, and efficiently for the purpose for which he employs them, but not with the same confidence in himself.

A very important point to attend to, and one that perhaps affects the surgeon as much as the patient, is neatness in the application of the bandage; for, although the patient may not be a judge as to whether the principle is carried out for which the bandage is used, he can always tell whether it be neatly applied, and will be inclined to form his opinion to a certain extent, if not of the skill of the surgeon generally, at any rate, of that particular branch of his art. He may be inclined, if this be ill effected, to underrate his surgeon in other branches, frequently not without cause; for he may think, and be correct in so thinking, that if he have not taken the trouble to learn how to apply so simple a thing as a bandage neatly, he may have neglected other parts of his profession, or at any rate not have had much experience in them. Neatness in the application of the bandage also affects the patient, for unless neatly put on, it will be liable to become displaced, or to press unequally on one part of the limb more than another, causing pain to the patient, and requiring the bandage and apparatus to be disturbed more frequently than otherwise would be necessary, which not only becomes annoying to the patient, but injurious, as interfering with the cure. In applying a bandage to protect the skin from friction or abrasion, you must take care that it presses equably and evenly over the whole limb; that it forms no irregular folds; otherwise you will only produce the evil it is your intention to prevent; and where it is practicable, you should apply the bandage to the limb in the position in which it is intended to keep it during the after treatment; by which I mean, that you should not put the bandage (on the arm, for instance) in an extended position, if it be intended to keep the limb in the flexed position afterwards, for the consequence will then be, that the joint will become constricted more than any other part, and cause pain and irritation of the skin, as well as œdema in that part of the limb below the bandage. These rules apply to all kinds of bandages, for whatever purpose they may be employed.

You will find that in rolling a limb which is not of equal thickness throughout, such as the leg or forearm, that as the bandage ascends towards the thick part of the limb there will be an inclination, if the bandage be allowed to take its own course, to leave the other folds, and to cause an interspace to remain uncovered. Now, this is to be avoided by turning the bandage at this point upon itself, producing what is well expressed by the French, as the "bandage renversé," and this is one of the most difficult points to gain in the rolling of the leg or forearm, and one that, if not done skilfully, will be a source of much mischief, because each turn of the bandage acts more or less as a separate ligature, and if applied too tightly, will produce the effects of one, by causing pain and swelling in the intermediate portions of the limb. This is often seen when the bandage is taken off the limb, and this point has not been attended to, for you will find an impression on the skin of every turn the roller has taken, and not unfrequently the patient complains of soreness from the unequal pressure. Now, this peculiar turn can only be performed with facility and neatness, and with effect, by constant practice, and will at once, as a general rule, be the criterion of the skill of the surgeon in this branch of his art; it is also of use otherwise, for it captivates the patient and his friends, and so raises the operator in their estimation.

Firmness in bandaging is a point worthy of great consideration, and yet it is one that is difficult to lay down rules for. You must avoid making too much pressure; let the pressure be not unequal, but tell gradually and evenly upon the whole limb from below upwards. A bandage can never press firmly unless it be made to lie evenly and flat; it may constrict the part, and produce all the evil consequences dependent thereon if not removed, such as œdema, vesication, and gangrene. I should say that where the firmness of a bandage ends, constriction and strangulation begin. I shall quote a passage, explaining well this point, from a work in which I believe you will find much soundness and common sense—I mean John Bell's Principles of Surgery, which I should recommend students by all means to read. He says, in speaking of bandaging a limb for hæmorrhage, "A bandage is very powerful in suppressing bleeding. At one period of surgery it took the place of every other method, and that was not in times of ignorance, but long after the discovery of the needle; not among unskilful men only, but among the best surgeons of France; or, in other words, this was practised very frequently by the best surgeons in the world, not only in the times of good surgery, but by the very men who made surgery what it is. If a compress be put neatly upon the bleeding arteries, if there be a bone to resist the compress, or even if the soft parts be firm below, and the bandage be well rolled, the patient is almost secure. But such a roller must be rolled smoothly from the very extremity of the fingers and toes; the member must be thoroughly supported in all its lower parts, that it may bear the pressure above. It is partial stricture only that does harm, creates intolerable pain and anxiety, and brings on gangrene. Hæmorrhage requires a very powerful compression, which must therefore be very general, and must be made very skilfully, to be either supportable or safe.' It must not be made only over the bleeding arteries, which is all that the surgeon thinks of in general, nor must it be begun at that part where it is particularly required. The bandaging, for example, by which a wounded artery at the bending of the forearm may be cured, must be begun at the very tips of the fingers; each individual finger must be rolled: the roller must be continued over the hand, with the greatest attention to leave not a single point unsupported, nor subject to strangulation. It must be rolled carefully and firmly upwards along the forearm, and then the whole of the limb will be supported against that pressure which is made, particularly in the wounded part. Gangrene is, you may easily perceive, the effect, not of a firm bandage because it is firm, but because it is partial, and strangles some single part of the limb." Again, he says, "When I speak of the firmness of the bandage, I address sensible men; you, of course, believe it possible to roll a limb so very tightly as to stop the circulation in it altogether. Wherever a roller does not press, the veins become gorged with blood. The blood does not circulate in the part; the surface becomes dark-coloured, and in the morning there is vesication on the skin, and in all probability the mischief is consummated: the limb has become mortified."

The same rules are applicable to the use of bandages, when employed to keep splints, or any other kind of apparatus, on a limb—namely, to make the pressure sufficient to retain them in place, neither causing pain, swelling, nor constriction at one part more than another; and you must be very cautious indeed not to make the pressure too great, or to allow it to cause pain when the bandage is employed to keep any kind of mechanical apparatus on a limb, for you will be almost sure to find sloughing at the point where this unequal pressure had been made, if the bandage be not removed in time to guard against it. In old people, or in very young children, and particularly in infants, you must be very cautious as to the degree of pressure you make, for you will often find that they do not complain until the mischief has been done; and on the removal of the bandage and apparatus, ulceration and sloughing will be seen in some part opposite the greatest pressure. Very often, the patient complains of soreness only, which the surgeon perhaps takes no notice of, or very likely the patient does not complain till some days after he first felt it, thinking that pain is a necessary consequence, and one that he ought to put up with. The fact is, however, that it is a sign of the bandage pressing unevenly, and too much on one point. *I believe it may be laid down as a general rule*, that after a limb has been bandaged, whether it be with a single roller only, or with more than one, as in the case of the treatment of fractures, &c., if *the patient complain of pain in any one part* of the limb, which he refers to the bandage, it is a sign that it is not properly applied, and it should be immediately removed, and re-applied, to avoid inflammation and sloughing, for either the bandage, or splint, or some part of the apparatus, is pressing in a manner it would not do if properly fitted to the limb. There is another great inconvenience which arises, independently of the pain it puts the patient to—viz., that when a slough is produced, it requires that the treatment must be suspended for some time, and, in most cases, for a long period for the process of separation is very slow, after which granulation has to take place, and the new skin to form, before the bandage and apparatus can be re-applied, during the whole of which time, of course, the cure is retarded.

In reading some of the opinions of the surgeons of former days, we find that many points which they considered as proofs of the success of their treatment, we condemn as evils. This point of the swelling of the limb was by the ancients, and even by comparatively modern surgeons, considered as a good sign rather than an evil one. You will find, in Wiseman's Surgery, after he has described, in a very curious manner, the mode of bandaging a fractured limb, he gives what he calls "signs of good bandage," and says, "there are the bandages of Hippocrates and Celsus, men of the greatest authority in chirurgery, and are followed by almost all that have writ since, and are of excellent use in fractures in and near joints, where there is fear of inflammation. But then, in your binding, you must observe such a mean as consists with the ease of the members bound: a *small and lax tumour* appearing at the extremity of the member a day after *is a sign of a good bandage;* but if there appear no tumour, or if the swelling be great and hard, the bandage is naught—the first showing the bandage not to be streight enough, and the last too streight. Therefore you should often visit your patient, to inform yourself how the bandage is."

Now, this small and lax tumour which Wiseman talks of is nothing less than the œdema caused by the pressure on the superficial veins being greater at the upper than at the lower part of the limb, and the consequent obstruction to the return of the blood, and which, if allowed to continue, will produce further mischief, as already stated—namely, inflammation and gangrene.

There is a very useful method of employing the common bandage, by soaking it through in a solution of starch. The starch dries in a few hours, and the folds of the bandage become adherent to one another, and form a kind of case which surrounds the limb or part to which it is applied. This case may be increased in thickness at pleasure, according to the quantity of bandage you employ. It is called the starch, or immovable bandage. This kind of bandage has, within the last few years, been largely employed by M. Seutin, chief surgeon of the hospital at Brussels. The principle, however, is not new; it was described by Cheselden in 1750. He used a mixture of white of egg and flour. It was also employed, before Cheselden's time, by a French surgeon of the name of Belloste, who wrote a work, in 1696, called "Le Chirurgien d'Hôpital." He used the whole egg, beaten up with a small quantity of oil of roses and vinegar, and then applied many bandages, and surrounded the limb with pieces of pasteboard. You will find, however, the most complete description of this method of bandaging in M Seutin's work, "Du Bandage Amidonné." He gives the various modes of applying it, and the later improvements made. The principal points are the following: you may either use a continuous bandage, like the common roller, or strips of bandage long enough to surround the limb and to overlap one another, imitating the bandage of Scultetus, or the many-tailed bandage. The kind of bandage you employ must depend on the nature of the case—using the continuous bandage or roller, when firm pressure is required, and no disposition to inflammation in the part; and the many-tailed bandage in the opposite class of cases. You must be very particular in applying the bandage with the greatest possible smoothness, avoiding all irregularities and rucks; for though in the soft condition of the bandage these do comparatively little harm, when hardened by the starch they may produce inflammation, and even ulceration. The solution of starch is made in the common way employed by washerwomen, adding, first of all, a small quantity of cold water, stirring it well, till it makes a uniform thick paste. To this you add a sufficient quantity of hot water, till it is of a consistence to spread easily, and at the same time thin enough to allow of its soaking into the bandage. You may apply it at once over the bandage, after it is completed, by spreading it over the outer surface; or you may first of all secure the edges of the folds of the bandage by spreading the solution between the two surfaces of the edges, gradually, as the turns are made round the limb, and then covering the rest of the bandage with it afterwards. This latter plan has the advantage of fixing the folds more completely, and in making the whole more compact and firm. You must avoid letting the starch come in contact with the skin, for with some people the roughness it produces causes irritation and itching, if not more serious consequences, requiring the removal and reapplication of the bandage. The principle to be borne in mind during its application is to maintain the limb in the position which keeps the ends of the bone in a proper line, if it be for a fracture that you are employing it, and the joint at a proper angle, if for disease, taking means to keep it so fixed till the bandage has become hardened.

The next practical point to consider with regard to the starch-bandage is, its advantage over other plans, and the cases to which it is particularly applicable. The great advantage the starch has is, that even in cases where you do not want to keep the joints and bones fixed with any great force, it connects the folds of the bandage together, keeps them in place, and prevents their slipping; it is easily applied, by just brushing the bandage over with the thin solution, which soon dries. I should recommend this for patients with varicose veins of the legs, who are obliged to walk about, and with those who can lay up it will be advantageous, the bandage being first of all very evenly applied, from the toes up the knee. It will now keep its place, give continual support to the veins, and not require removal under ten days or a fortnight, nor even then, if no inconvenience be experienced, except for the sake of cleanliness. It is a very difficult thing to keep a bandage on the leg, unless it be very well applied, and for this reason the starch may be used with advantage. In all other cases, also, where the bandage is not required to be removed for some days, a thin solution of the starch may be rubbed over to fix the folds, and keep the whole more compact. In many cases of simple fracture, where there is no disposition in the ends of the bones to project, or for the parts to swell, the starch-bandage, applied, as a thick case, by increasing the quantity of bandage at pleasure, may certainly be used with advantage, as giving compact and general support to the limb, and enabling the patient to leave his bed at an earlier period. There are cases of compound fractures also where no doubt it might be used, by leaving an opening opposite the wound.

In those cases where there is a disposition in the limb to swell, either from inflammation or other causes, an ingenious plan has been recommended by my friend, Mr. Christophers, and the late Mr. King, to overcome or prevent these evils, without the necessity of removing the starch-bandage. It consists in dividing the starch-bandage, after it has become hardened, with a strong pair of scissors, into separate portions, in the longitudinal axis of the limb, and then applying three, four, or more straps made with caoutchouc; by this means the original firm case formed by the starch-bandage is kept in position, and firmly in contact with the form of the limb, at the same time that the india-rubber bands admit, by their elasticity, of the whole yielding to a sufficient extent to avoid any injurious pressure which might be produced by the swelling which so often accompanies the bandaging of a limb in cases of fracture, &c. Mr. Christophers tells me that he employed this method in some cases of fracture with decided advantage; the starch-bandage still formed a firm case for the limb, giving sufficient support to keep the ends of the bone in apposition, at the same time that the elasticity of the caoutchouc bands yield to the swelling which took place, and so obviated the necessity of disturbing and removing the bandage. You will find a description of it in the *London Medical Gazette* for August, 1838.

In the employment of bandages for the treatment of wounds, you have two objects in view—the one is, to keep the plasters and dressings from becoming displaced; the other, is, to assist in keeping the edges of the wound in contact. You must also bear in mind the nature of the wound you have to dress. You are aware that there are three principal kinds of wounds—namely, the simple incised (either deep or superficial,) the contused, and the lacerated. In the incised wound, the bandage must press firmly above and below the edges of it, and but slightly on the wound itself, in fact, but sufficiently to confine the dressings, as you do not want to make pressure vertically, but merely from side to side. In the ragged or lacerated wound, where the edges are disposed to fall asunder, you make the pressure tell generally and evenly, so as to keep them in contact with the surface beneath, and leave the parts around it comparatively free, for it is the vertical pressure that is now most required. In the bruised or contused wound little pressure is required, nor can it be borne, for the nature of the wound implies that the vitality of the skin or deeper parts is destroyed, and union by the first intention cannot be expected to take place; but a more tedious process has to be gone through—namely, sloughing, ulceration, granulation, and cicatrization. Bandages, however, may be of use during the ultimate stage of the cure, when cicatrization has commenced, by giving support to the edges, and by applying the pressure in such a manner as to diminish the extent of the granulating surface.

In the majority of cases for which bandages are employed, our object is to keep the part at rest for some time, more particularly in recent wounds. It will be obvious, then, that if the above points be not attended to, it will become necessary, either from the pain or the swelling that will arise, to remove the bandage, or to loosen it in one part more than another, which will tend, of course, to disturb the process of union at an early stage, or in other cases put the patient to inconvenience and pain, owing to the motion that must be given to the limb during the removal and reapplication of the bandage. If a bandage require to be removed oftener than the mere dressing of the part is concerned, supposing the case to be that of an ulcer or wound, or when it is applied for other purposes, it is a sign either that it has not been properly applied, or that the case is not fitted for the necessary pressure and confinement which a bandage causes.

In employing the kinds of bandage which are composed of many pieces, whether merely the common roller or of straps in connexion with other apparatus, the same general rules must guide you in their application—namely, not to injure the skin, and not to press unequally so as to cause swelling, œdema, and other evil consequences. These various kinds of apparatus, which come under the denomination of special, I shall explain to you when considering the different regions to which they are applicable, with a general description of the cases in which they are required. There are important requisities which every one will bear in mind—namely, to make himself acquainted first with the principle and mode of application of the bandage, and secondly, to convince himself that it is likely to obtain the desired end for which he is about to employ it.

With regard to the special kinds of bandages, there are not many general principles to be laid down, beyond those which I have already mentioned. You will find that some of the bandages which I shall have to describe to you will appear at first rather complicated, and some may be so in reality; but then, they are fitted for a special purpose, and to obtain a particular end—one that could not be gained by means less complicated. In using the term complicated, I merely mean that it requires a little care and practice to learn how to apply the particular kind of bandage; for although it may appear complicated to the eye, it will not be found so on taking a little pains to understand it. All special kinds of bandage should be so constructed that they may effect the object for which they are invented as completely as possible, at the same time that simplicity is borne in mind, so far as may be compatible with usefulness, remembering that facility of application, when it can be obtained, is always a desideratum in mechanical contrivances, for whatever purpose they may be made.

In conclusion, gentlemen, I have to recal how important it is to make yourselves *practically* acquainted, as much as possible, with all the points which refer to the branch of surgery which I have to explain to you; to urge you, not only to see and read, but to manipulate for yourselves, if you wish to become dexterous, for you can neither put on a bandage with advantage to your patient or credit to yourselves, without great practice and trials of the same thing again and again; and I cannot finish better than by quoting the following words of the author already referred to—viz., John Bell.

"One who is deep-read in theory only, while he seems to understand everything, is conscious that he can do almost nothing. He is acquainted, indeed, with the principles of science, but is disconcerted by the merest trifles, and is mainly uncertain how these principles should be applied. He is a philosopher handling the tools of a workman; he is like one who, when conducted through the chambers of a great manufactory, comprehends very well the force and effect of the various engines, and the powers which move them; who understands the general design of the work, and the effects of each individual process; who observes each individual workman, as he passes by him, employed in some little ingenious operation, so simple, to all appearance, that it might be performed by a child; but the philosopher has only to put his hand to the work, to be convinced that art and science should go hand in hand; and that without dexterity of the lowest and most mechanical nature, the highest mental endowments are of no avail. But I will make no further apology for instructing you in those little particulars of practice, which I hope you are desirous to learn."

Lectures
ON THE
PHILOSOPHY OF MEDICINE,
DELIVERED IN THE
Lecture-room of the Literary and Philosophical Society, Newcastle-on-Tyne,
BY ROBERT M. GLOVER, M.D.

LECTURE I.

Introduction to the Course.

CABANIS remarks, that to study and practice medicine properly, we should have a conviction of the truth and importance of the science;[*] and, indeed, it does not require much reflection to convince us that a sincere belief in the efficacy of the means which he employs, must be an essential element in the constitution of an honest and successful practitioner.

Perhaps no science has been cultivated with such unwearied devotion; none by greater minds, than medicine. From the time of Hippocrates to our own day, what attentive and solicitous observation, what careful induction, what ingenious hypotheses, what extensive science, what vast labours, what recondite research, have been employed! Many of the greatest men that have ever lived have been numbered in the ranks of medical men, or have only left the pursuit of practical medicine to cultivate those collateral sciences which tend to throw light on the theory and treatment of disease.

Yet because much remains to be done, in our day some medical men, and many out of the pale of the profession, are to be found ready to cry out that little or nothing has been gained, and that the labours of so many generations have almost been futile. A part of this feeling arises from ignorance of the difficulty of the subject. With the vulgar nothing appears so easy as to cure diseases; and yet, abstractedly speaking, and putting out of view what has been gained by the experience and science of our predecessors, to interfere in those delicate, subtle, and often mysterious operations of Nature which constitute disease, and direct them to a salutary end, is to perform a feat far more difficult than the building of the pyramids of Egypt.

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[*] The expression is so happy in the original that I must quote it, "Pour étudier et pratiquer convenablement la médicine il faut y mettre de l'importance; et pour y mettre une importance véritable, *il faut y croire.*

But an illustration will serve to show what medicine has really gained in practical power in the course of time, and to prove that the immense labour bestowed, and the co-operation of the auxiliary sciences, have not been thrown away. Let a European physician now visit those regions of the East where the practice of medicine is yet conducted according to the precepts of Galen and Avicenna! He is welcomed as an angel from heaven; his aid is sought far and wide, and the results derived from his skill soon manifest the vast strides which medicine has made in practical power since the days of the ancients.

But because we have advanced further than the ancient fathers of our profession, we should not disdain their labours; as learned naturalists will seek in Aristotle and Pliny for information to confirm or complete their views, so may we profitably consult the works of Hippocrates or Galen. And besides the indulgence of an enlightened curiosity, there is profit in tracing the progress of the science, and from the history of the past, deriving lessons for the guidance of present and future inquiry.

My object in these lectures is, to consider, first the position which medicine occupies among the sciences; and then, as a consequence of the views stated, to deduce the mode in which medicine should be *cultivated*; and finally, I purpose saying a few words on the *pseudo* medical sciences which have sprung up in modern times, and met with too much encouragement, not merely from the public, but from some false brethren of our own profession, who have shown an absence of faith in the noble science which they profess, adorned as it is with the glorious labours of so many great and illustrious names, through the lapse of so many centuries.

Medicine, properly so called, must be distinguished from its collateral sciences. By medicine we ought to understand simply the study of disease and the treatment of disease, or pathology and therapeutics. The distinction between medicine and surgery is merely factitious, however convenient it may be in practice, surgery having to do rather with external diseases, and such as require manual operations more especially; medicine, properly with internal diseases.[*] Midwifery is to be considered a branch of surgery, equally included in the general term medicine, as it is only in the departure from the normal process of parturition that artificial aid is required. Anatomy, physiology, chemistry, &c., are not medicine, although the great zeal of medical men has led them to cultivate those collateral sciences, in order, through the knowledge thus gained, to throw light upon disease, with a zeal which has rendered not only these sciences, but many others, in a manner the property of the medical profession. These sciences are useful to many other professions as well as to ours; and the fact of their owing their present state of development almost exclusively to us, is a triumphant proof how sincerely and zealously the professors of medicine have devoted themselves to the interests of mankind.

Of the position of Medicine among the Sciences.

In the first place, then, there are two classes of sciences—those which are abstract and those of fact.

The abstract sciences repose on *certain* truths, which are either intuitive or derived from the easiest and simplest induction.[*] In metaphysics and in geometry, the fundamental propositions are first principles of belief, which I should prefer to regard as excited by external sensation, and internal sensation or reflection[†]—that is to say, the mind has the power, when excited, or set in action, as it were, by external impressions and sensations, to frame ideas which belong to itself, and which we do not know to exist in the external world. The veritable doctrine of Locke on this point has been much perverted by French metaphysicians of the school of Condillac. When they laid such stress upon their doctrine of *sensation*, and maintained that all our ideas were only modified sensations, they overlooked the independent power which the mind possesses when excited by sensations derived undoubtedly from without, of creating from them ideas which belong solely to itself, and have no prototypes, so far as we know, in the external world. Such are the pure forms of geometry. Of the same kind are the ideas of relation and causation, which are the foundations of the abstract sciences, and from which the propositions of these sciences are eliminated by deduction or syllogism; such, also, are the ideas of causation, which in the physical sciences we are continually seeking after, which always elude our positive grasp, but which in their pursuit lead us to a series of physical laws.

Thus when we see a spark explode gunpowder, there are before the senses only the spark, the gunpowder, and the explosion; but the mind immediately conceives the idea of a cause—of an adaptation on the part of the spark to explode the gunpowder; and this idea of causation leads us to inquire further. We then find that the gunpowder is composed of materials which act on each other when heat is communicated to them. We go on to ask how the heat does this; but let us get as far as we can, an idea of causation is still before us—a hypothetical essence still serves to unite the facts.

The search after ideas of causation is an effort on the part of the mind to acquire the same control over the external world that it has over the ideas of relation and such-like, existing in itself, which form the bases of the purely abstract sciences. The difference between the two great classes of sciences depends chiefly on the one having to do with an internal, the other with an external, world. In the former we lay down evident principles or axioms, and *deduce* from them consequences and applications. In the latter we study the facts and phenomena, collect them into classes, by means of *induction*, and seek after the connexions and relations between them, in order to get at the *causes*, which last, however, we can only grasp hypothetically.

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[*] Mr. Macilwain, in his work, "Medicine and Surgery one Inductive Science," has laboured to show this unity. There can be no question but that medicine and surgery hold precisely the same place as inductive sciences.

[*] Mill says that the axioms of mathematics "are experimental truths—generalizations from observation."

[†] "First *our senses* conversant about particular sensible objects do *convey into the mind* several distinct *perceptions* of things, according to those various ways, wherein those objects do affect them. ....Secondly, the other fountain from which experience furnisheth the understanding with *ideas* is the *perception of the operation of our own minds* within us, as it is employed about the *ideas* it has got, which operations, when the soul comes to reflect on, and consider, do furnish the understanding with another set of *ideas*, which could not be had from things without............ This source of *ideas* every man has wholly in himself. And though it be not sense, as having nothing to do with external objects, yet it is very like it, and might properly enough be called internal sense."—*Locke on the Human Understanding.*

As in physics we are compelled to suppose the existence of a cause of gravity, so in physiology we talk of a vital force. And in the latter science, as in the former, the search after the cause has eliminated a series of general laws. Dr. Thomas Brown endeavoured to show that these ideas of causation are unphilosophical, and should not have a place in physical science. But if we see two masses of matter approaching each other, can we help supposing the existence of an attractive force? Or if one of the masses be more forcibly impelled towards the other, than that unto it, can we help supposing that the attractive power is greater in one of them? In fact, Dr. Brown virtually concedes the whole question; for while lamenting the defection of Newton from sound philosophical views, with regard to the proper objects of physical inquiry, indicated by his *query* as to the cause of gravity, he attributes this to the influence of a "human infirmity," from which the greatest minds are not exempt.* Yes! the belief in the existence of physical causes *is* a human infirmity.

It is generally believed that Bacon banishes the study of causes from his philosophy. This is very far from being the real state of the case. On the contrary, he creates a real branch of philosophy, the express object of which is the investigation of these causes. In fact, while the ancients, and many of the moderns, deceived by the false analogy of geometry, endeavoured to arrive at a knowledge of ultimate principles in physics, and from such principles assigned hypothetically, to deduce effects, and thus to demonstrate all the *real* phenomena of nature out of the understanding,† as Aristotle attempted in his physics, and afterwards Descartes; Bacon proposed first to investigate facts and their existing and observable connexions and relations, and not to speculate until this investigation had been pushed as far as possible. He separated the study of causes, to a certain extent, from that of facts, and assigned the former to metaphysics, and the latter to physics;* and Newton, deeply imbued with the spirit of Bacon's philosophy, followed its precepts to the letter, when, having arrived at the law of gravity inductively, he began to speculate as to the nature of the cause of gravity, giving us to understand, in his twenty-eighth query, that the ultimate aim of scientific enquiry is the determination of such lofty questions.

Between the doctrine of causation and the theory of induction, there is, as we shall see, a close connexion. Nothing could be more simple than the idea of induction entertained by Aristotle and most of the writers on syllogistic logic who have followed him. The province of induction was in their eyes very limited; that of syllogism vast—nay, unlimited. Aristotle says that syllogism is "naturâ prior et notior;" yet, still, in his chapter on induction, he seems to assign the province of demonstrative reasoning to syllogism, the discovery of physical truth to induction. In practice, however, he widely differed from this. Induction, according to him and most writers of systematic works on logic, down to Dr. Whately, is little more than an enumeration of the particulars in which a number of instances agree. Aristotle says, "*Nam inductio fit ex omnibus singularibus.*"

Mill, in his admirable work on Logic, has given by far the best view of induction with which I am acquainted. "Induction," he says, "is inferring a proposition from propositions less general than itself, and ratiocination inferring a proposition from propositions equally or more general."

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* Brown's Lectures (edit 1820,) vol. i. sec. 8, p. 147. It is very remarkable how Dr. Brown, who exposed with so much force and ingenuity the error of the French commentators on Locke, when they made all ideas merely modified sensations, should have endeavoured to destroy the doctrine of causation, which is a main support of Locke's views respecting the other source of ideas from internal sensation or reflexion. In fact, there can be *no* better proof of the independent power of mind than the existence of those ideas. And it is still more extraordinary that Condillac, the great advocate of sensualism, should have admitted the legitimacy of these ideas of causation and force. (Traitè des Systêmes, tom. i. pp. 240, 242) The axiom, "Nihil est in intellectu quod prius non fuerit in sensu," is true in this limited sense, that unless the mind were *set to work* by notions derived from without, it could not frame the ideas of internal *sensation*.

† The great difference between the application of the deductive method to geometry and to physics, besides the fundamental difference in the nature of the sciences, already alluded to, depends on this; whilst in mathematics we can put all the suppositions which the case requires; in the natural sciences this is beyond our power. A striking example of the difficulty of reasoning by assigning causes or theories, and then endeavouring to verify them by applying them to phenomena, exists in the old and new doctrines of chlorine and muriatic acid. For a long time these two opposite and contradictory theories explained perfectly all the known facts. The phlogistic theory is another instance in point; and in medicine there have been such general doctrines as those of Cullen, Brown, and Broussais, which prevailed for a time, and explained several facts and phenomena very well, but which have been in succession overthrown by the discovery of one exception after another, until they have at last fallen into the *limbe* of things that have been.

* It may be well to support the above view. It is not always very easy to understand the real meaning of Bacon, whose language is often more forcible than clear. This has been remarked by Stewart, who says:—"In one passage he approves of the opinion of Plato, that the investigation of FORMS is the proper object of science, adding, however, that this is not true of the FORMS which Plato had in view, but of a different set, more suited to the grasp of our faculties." This is nearly the language of the Novum Organon [Part 1, sect. 2. aph. 51.] And elsewhere in the same work he says, that he understands by the word FORM the law through which the actions of individual bodies are performed [part 1, sect. 1, aph. 2; but elsewhere he evidently means by FORMS the most remóte principles that can be conceived. Thus he tells us that the "FORM of any nature is such that where it is, the given nature must infallibly be" [Part 1, sect, 2, aph. 4.] And although, in the very next sentence to that in which the passage just rendered occurs, he seems to allude to something still more essential than a FORM; yet, as in the enquiry after the FORM of heat, he concludes heat to be "an expansive bridled motion struggling in the small particles of bodies." I think that his higher forms correspond with such principles, as the cause of gravity, or the cause of light, but that he has another inferior set of FORMS, corresponding to physical laws; and, as he divides his philosophy into the study of FORMS, or metaphysics, and the study of effects or actions up to the FORM, which he calls physics, proposing, by means of the knowledge acquired in physics, to produce all sorts of mechanical actions [Nov. Org., Part ii. sect. 1, aph. 9]; his meaning is thought to accord with the interpretation above given.

"A principle ascertained by experience is more than a mere summing up of what we have specifically observed in the individual cases that we have examined; it is a generalization grounded on those cases, and expressive of our belief, that what we there found true is true in an indefinite number of cases which we have not examined, and are never likely to examine . . . . . In every induction we proceed from truths which we know, to truths which we did not know, from facts certified by observation to facts which we have not observed, and even to facts not capable of being now observed, future facts for example, but which we do not hesitate to believe upon the sole evidence of the induction itself."

Understood in an enlarged sense, induction consists not merely in collecting facts and phenomena into *genera*, but in ascertaining their relations, and frequently in inferring from the examination of a few instances a general law affecting a great many, some of which may be unexamined. The great value of Lord Bacon's labours in advancing the logic of science, consists simply in this, that he pointed out how the labour of induction may be abridged by the selection of prerogative facts, as he calls them—viz., facts which being examined yield results leading us to frame conclusions far more general than the instances examined.

There cannot be a better illustration of induction, as ordinarily practised in the physical sciences, than is afforded by Wells's Theory of Dew. The great generalization in the elegant work of Dr. Wells is, that the power of attracting dew in bodies bears a constant relation to their power of radiating heat. Of course the number of instances to which this law applies is without limit, and to prove it by the examination of every instance is impossible. But the author takes as specimens such instances as charcoal, platinum, gold, silver, lead, grass, gravel, &c.; he assumes that he has got represented a sufficient variety of radiating power from the zero of burnished silver to the maximum of porous charcoal; he finds the relations between the two properties to be regular in the instances examined; and he assumes it to be so for all bodies whatever. It is observable that he has in a manner lost sight of the *instances*, and adhered to the properties. And if we attend carefully to the mode in which the law is framed, we shall discover that an idea of causation is interposed between the two properties to which the law refers. An idea of an essential connexion existing between the two properties, derived from the constant relation which they bear to each other, has led to the inference that in every instance, examined or not, where the one property exists the other will bear a certain relation to it.

I have said that the great merit of Bacon consisted chiefly in having pointed out that some instances of a *genus* may be taken as examples of the rest, and that a law framed from the examination of a few may thus be made to include a great many unexamined instances, whence a power, termed by him anticipation, may be obtained.

The mode in which this is done has still continued to present a difficulty in the theory of induction, so that Mill asks the question—"Why is a single instance, in some cases, sufficient for a complete induction, while in others, myriads of concurring instances, without a single exception, known or presumed, go such a very little way towards establishing a universal proposition?" He adds, "whoever can answer this question knows more of the philosophy of logic than the wisest of the ancients, and has solved the great problem of induction."

This problem, then, I shall with all humility attempt to solve, and although I may not be more fortunate than the numerous tribe who have attempted the quadrature of the circle, yet I venture to think that I shall give the only solution which the case admits of; and if this be not sufficient, I really believe that there is no other.

The logicians who have written more particularly on the syllogistic logic, have generally asserted, with Dr. Whately, that an inductive inference drawn from a part of the class with regard to the whole can only be supposed legitimate through a species of logical fiction, in assuming that a few out of a large number of instances do adequately represent the class to which they belong. I shall quote some instances from Gassendi, which, I think, state the matter in a very clear light:—

"Etenim ipsa quoque inductio syllogismus reipsa est, et quadamtenus quidem mediæ inter enthymena et gradationem conditionis......sic cum dicitur, v.c. Omne animal gressile vivit, omne item volatile vivit, omne etiam natatile, omne reptile, omne zoophytum, igitur omne animal vivit; assumptiones huic plures sunt, juxta generaliores species gradus animalis collectæ, et quasi in unam coadunatæ, quam ista propositio intelligatur præcedere, Omne animal aut gressile, aut volatile, aut natatile, aut reptile, aut zoophytum est.

"Scilicet, nisi hujusmodi propositio supponeretur, suppressave licet, subintelligeretur tamen, consequutionis vis nulla foret; cum si præter enumerata existeret aliud quodpiam animal, conclusio evaderet falsa.

"Unde et licet intelligi, debere inductionem, ut legitima sit, continere omnium specierum, partiumve enumerationem; ne si una quæpiam deficiat, ea exceptionem faciat, probationemque labefactet. Quanquam, quia ut superius semel iterumque monuimus, difficile plerumque, aut impossibile, etiam est enumerationem omnium, fieri, dici, aliquibus enumeratio, solet, quod Lucretius, et Horatius, *Cætera de genere hoc;* supponendo videlicet, præter membra enumerata occurrere nullum, quod secus a habeat."*

Whately has an example of induction which tends to illustrate the same statement of the case. "*E. g.*, from examination of many horned animals, as sheep, cows, &c., a naturalist finds that they have cloven feet; now his *skill as a naturalist* is to be shown in judging whether these animals are likely to resemble in the form of their feet all other horned animals; and it is the exercise of this judgment, together with the examination of individuals, that constitutes what is usually meant by the *inductive process;* which is that by which we gain what are properly *new truths;* and which is not connected with logic; being not what is strictly called *reasoning*, but *investigation*. But when this major premiss is granted him, and is combined with the minor—viz., that the animals he has examined have cloven feet, *then he draws the conclusion logically*—viz., that the feet of all horned animals are cloven."

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* Institutionis Logicæ, pars 2, canon 11.

The examples of induction have been taken by most logicians, from cases where the facts are not of the kind termed by Bacon, *prerogative*. An excellent illustration of the kind of induction which they have selected is given in the account of Lord Bacon's "Novum Organon," published by the Society for the Diffusion of Useful Knowledge; and although the illustration has often been quoted, yet it is so good that I shall give it here. Euler found that, according to the formula x^2+x+41, a certain number of figures of the series, 1, 2, 3, 4, &c., furnished *primes*, making x successively equal to 1, 2, 3, 4, &c.; up to 40, all numbers treated in this way furnish *primes;* so that if the investigation was stopped at a certain point, a law might be framed stating that all numbers treated according to this formula would furnish *primes;* this holds good up to 40, but the very next term of the series, 41, treated in this way, does not give a *prime*. It is very clear that from any number of such a series yielding the result given, only an inference of probability could be drawn with regard to the instances unexamined. And of this kind is Whately's example, since we can discover no reason why this particular form of hoof should always accompany the horns in these animals.

There is a law that the external resemblances of plants are accompanied by a similarity of action on the systems of men and animals; in other words, plants of the same natural family have similar physiological properties. Now from the examination of any number of cruciferous plants, and finding these plants to exercise a particular physiological effect, we have only an argument of probability, however strong, in favour of those plants which may belong to the family, and have not been examined. But if we could take a cruciferous plant, and *experiment* on it so as to exalt the *cruciferous form*, and find the physiological property was exalted with it, diminish the cruciferous form, and find the property diminished too; we should then get an idea of the essentiality of the connexion subsisting between the form and the property, and apply the law deduced from the examination of a few plants to all the plants of the family examined or not.

It is only in cases where an experiment can be performed, or where the instances put together afford results similar to those of an experiment, that some instances of a genus can be taken as examples of the rest. And I should distinguish entirely the provinces of observation and experiment. Every experiment supposes observation; but every observation does not suppose experiment. As far as I am aware, there has been hardly any attempt to distinguish accurately observation from experiment. Gavarrat says,—"When man confines himself to remaining a mere spectator of facts, and contents himself with exploring them, as they present themselves to him, with all the complications that surround them, without interfering in any active manner, he makes an *observation*. But if he interferes either to remove accessory circumstances which only serve to mask the phenomena, whether to favour or determine their manifestation, he makes an experiment."*

Thus, according to this writer, a microscopic examination of any animal product, especially if acetic acid or other reagents were used to make the elements of the tissue more visible, would be an experiment. I should call it merely a refined observation where we assist our senses with the use of instruments. No doubt the term experiment may be used in a large and in a vague sense; but I should prefer confining the strict use of the word *logically* to those cases in which the relations of properties are tested, in order to ascertain whether they are essential or non-essential.

It is this idea of essentiality, obviously of the same kind as ideas of causation, which enables us to apply such inductively raised laws as that of Wells, universally. According to Mill, "The proposition that the course of nature is uniform, is the fundamental principle or general axiom of induction." And if it be asked how these ideas of the essential connexions of properties are derived, I answer by finding that one property under varied circumstances bears a constant relation to another. This, then, I believe is the reason why some instances of a genus may sometimes be taken as examples of the rest. Whether the explanation be sufficient I shall not pretend to say; but whether satisfactory or not, I believe it is the only answer which can be given to the question asked.

We see, then, that in the physical sciences we have laws derived from observation and enumeration, or derived from the observation of a few instances, and applied to unexamined instances on the ground of probability, and we have laws derived from experiments, and a few prerogative facts, and applied to unexamined instances on the ground of essential connexions believed to exist between properties. Anatomy, astronomy, natural history, &c., are sciences of observation; natural philosophy, chemistry, &c., are in great part sciences of experiment. The application of calculation to a physical science in no respect changes the logical constitution of the science.

We are now prepared to ask in what respect medicine differs from other sciences of observation and experiment.

There are several general objections to the cer-

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* "Principes Généraux de Statistique Médicale," p. 6.

tainty of medicine which may be considered. They are so well summed up by M. Cabanis, that I shall follow almost exactly his enumeration of them.

1st. There is ignorance (it is said) of the nature and first causes of disease—of the vital principle and the way in which it acts.

2nd. The great varieties of disease, according to age, sex, temperament, &c.

3rd. Ignorance of the nature of the substances employed as remedies, and their mode of action, and difficulty of experimenting on these points in medicine.

4th. The changeability of medical theories.

5th. If all these difficulties could be removed, it has been objected that there would still remain an art too difficult to practise—an art above the power of most intellects.

Many of these objections are constantly in the mouth of the public, and we are frequently exposed to hear some of them from even intelligent laymen, not perhaps so well stated as by the clear and philosophic writer to whom I have just referred.

The first objection may be answered by referring to other sciences, in which we investigate and utilize laws without knowing (except hypothetically) the real cause. In agriculture it is not deemed necessary to extract from Nature the secret of vegetable life in order to invent and perfect that science.

The second objection is a serious one, and will come immediately under consideration.

Ignorance of the substances we employ, and their mode of action; this is a difficulty which has been to a great extent removed, and is likely to be further dissipated by the advancement of science; and it may be shown, that in the treatment of disease, we have often results presented to us, equal *in force* to experiment, besides the analogical inferences which may be drawn from experiments on animals.

The variety of medical theories which have prevailed merely proves, that it is difficult to generalize in medicine, not that this is impossible.

The answer to the last objection is derived from the lessons of experience. What medical man is there, worthy of the name, who has not beheld abundant examples of the power of medicine? Has he not seen inflammatory affections yield promptly to bleeding, counter-irritants, and sedatives; and that with a *relation* between the application of the remedy and the result, which can leave no doubt on his mind? Is it possible to doubt the power, for example, of quina, in curing intermittents, or of the effects of whole classes of remedies—cathartics, emetics, anthelmintics, and so forth? All the difficulties, however formidable, alleged against the certainty of medicine are capable of being removed, except those which I have classed under the second head. And I believe that it is to them we must look for the *real, permanent, and constant* obstacles to the progress of medical science.

Disease is in itself often a species of peculiarity, and the individuality of a case of disease is rendered greater by being blended with what we call idiosyncrasy. In short, as a general rule, it may be said that a diseased human being, *ipso facto*, differs from others, and this in regard to what we have to look to in induction; he is not similar to others but only analogous to them. In the examples of induction already given, we have seen—1st, a preliminary genus formed, and a connexion established between properties or facts, in some instances of a genus, applied to the rest. The great difficulty, in medicine, often is in forming the preliminary genus, the instances being rendered, by idiosyncrasy, not similar but rather analogous. When Davy discovered the composition of potass, it became almost certain that soda would have a similar composition, still this was not certain, since soda was only analogous not similar to potass.

This, then, appears to me the great obstacle to the progress of medicine, to the transferring of results obtained from the examination of some cases to others—the individual peculiarity of the instances. In physiology we proceed upon a common basis: we reason upon conditions which are the same in all human beings—upon a fundamental basis of resemblance. And where, in medicine, we do this, our inferences are as general as in physiology. For instance, we can predict with certainty the great and direct result of destruction of the spinal cord, by accident or disease at any one place, or what will take place if the gall-bladder be obstructed.[*] The disorders of great physiological functions are sure to follow the lesions of the organs which perform these functions. But, unfortunately, as has been said, there are many medical generalizations which do not rest upon this common and fundamental basis.

For example: let us take the well-known theory of M. Broussais, by which he supposed, and many French followers with him, that he had destroyed for ever the idiopathic doctrine of continued fevers, and caused these diseases to enter into the great class of phlegmasiæ. In his eyes, the cause of common continued fevers was to be found solely in an inflammation of the follicles of the small intestines, and patches of Peyer. When every other French physician had adopted the views of Broussais, one warning voice was raised; and although at the time, and for long afterwards, its words were disregarded, the lapse of time has at length vindicated the sagacity and discrimination of M. Chomel. I shall translate his remarks, as given by M. Bouillaud, in 1836. They were first published by Chomel, in his "Treatise on Fevers and Pestilential Diseases," in 1821.

"Idiopathic fevers," said he, "are become much less common in the eyes of the greater number of physicians; they become, in the opinion of many, very rare diseases; and in the judgment of some others, they should be erased from the nosological list, and referred all to inflammations. This latter opinion, from the fact alone of its being exclusive, opposed to the ideas received and proclaimed with assurance, was likely to seduce the inexperienced crowd. The same motives should rather prepossess against it men profoundly instructed in the knowledge of disease, and accustomed also to use measure in their opinions, and circumspection in their judgment.

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[*] Several admirable illustrations of inductive laws, raised upon the common fundamental and physiological basis, as we may say, are to be found in the works of Marshall Hall. (See his "Diseases and Derangements of the Nervous System," *passim*, and other treatises of the same author.) When I come to speak of generalization, and general laws in medicine more particularly, I shall refer again to the labours of this illustrious cultivator of science.

"Behold what we observe in the bodies of individuals who succumb to *severe fevers*—1. In some individuals, no appreciable alteration. 2. In others, only a slight redness, often confined to a very small portion of the intestinal canal. 3. In the greater number—three-fourths, nearly—we find ulcers more or less numerous in the intestines, towards the ileo-cæcal valve; the corresponding mesenteric glands are red and tumefied. In some subjects we find nothing but traces of cicatrized ulcers."

He concludes, therefore, that the intestinal ulcers are as likely to be the effect as the cause of the symptoms observed; and that M. Broussais and his followers have been too hasty in their views. M. Bouillaud hopes that M. Chomel will abandon this "strange opinion."[*] There was another argument used by M. Chomel, of the value of which M. Bouillaud seems quite unaware—viz., that "in a great number of cases there is no proportion between the gravity of the disease and that of the anatomical lesions."[†] It is evident, according to what I have previously said, if this relation had existed between the assigned cause and the effect, the fact would have been a prerogative one; but not applicable to other instances except on the ground of analogy; since this is obviously one of those cases in medicine, where peculiarities of age, sex, temperament, &c. —which, in fact, may all be summed up in the word idiosyncrasy—may interfere. Besides, symptoms of general fever, or of continued fever, might arise, from more than one cause. Accordingly, the experience of British physicians has not realized that of their French brethren. Nevertheless, so blinded were the latter, partly, perhaps, by national vanity—for the doctrine of Broussais had become *French*—that they refused to credit our reports. They denied to British physicians the faculty of correct observation, and asserted the existence of lesions of Peyer's patches, where we could not see them; and I believe that they held out until my friend Dr. Lombard, after a visit which he made to this country, informed his continental brethren that he was convinced of the frequent independence of symptoms of common continued fever, as observed in this country, on the lesions so much insisted on in France.

As another instance of the effect of idiosyncrasy, let us take the action of colchicum in gout. We have hardly a prerogative instance than is displayed by the connexion between the giving of colchicum and the cure of gout. We know that the system in this disease is charged with uric acid and urates, and that colchicum expels these by the urine; yet, in some cases, from circumstances of peculiarity, the remedy may not act.

Prerogative facts exist in medicine, but the individual peculiarities of the instances too often prevent their application. A great proportion of medical reasoning must necessarily, therefore, bear resemblance rather to such sciences as political economy, where perturbations arising from new circumstances are continually introduced into the politician's theory. From what previous fact in history could any one, however sagacious, predict the revolution of February in France? I have already shown, however, that there are generalizations in medicine resting on the same foundation as those in physiology.

The history of science appears to bear out the general view of induction just given.

The progress of the human race in knowledge may be compared to that of an individual mind; and even the great aberrations from the right course which have occurred may be, to a great extent, explained by the theory of induction. The earliest natural philosophers of the Ionian school commenced by framing hypotheses respecting the causes of things, and however, simple and rude their notions might be, yet they served to excite inquiry, and to foster observation. The speculations of Thales and his followers were directed to the finding of one great elementary principle, which they supposed might, by its multiplications and reunions, produce all the forms and modifications of bodies. All the philosophers of this early school agreed in the necessity of a primary elementary principle; and not having those means of exploring nature, which thousands of years indeed were required to bring to the state that have now attained, these ancient investigators, feeling, too, in a more overpowering manner than even we can do, the melancholy truth of the sublime axiom of Hippocrates, that life is short, and art long, set to work to climb Olympus without a ladder. They framed hypotheses or conjectures, and no doubt they wandered widely; still, such is the unity of science, they never altogether lost sight of truth, and there is some similarity between the doctrines with which they commenced scientific inquiry and the theories of the present day. Thus, the followers of the Ionian school soon became sensible that the hypothesis of one element was not alone sufficient to explain all the changes which bodies undergo, and they added to it a soul, a pervading spirit, which served as a bond of union to all things, and developed the various modifications of the elementary principle. They superadded certain harmonies and discordances in bodies, which caused them to act in various ways; and they supposed the existence of spirits or dæmons emanating from the soul of the universe, and clothed in bodies of ether, which went to and fro, effecting all kinds of changes.

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[*] Essai sur la Philosophie Médicale, p. 83.

[†] M. Bouillaud seems to have most extraordinary notions of induction, or rather a total want of any clear conception of what induction is, and in fact to be thoroughly *at sea* on the subject. Nevertheless, his work, although necessarily faulty as regards the coherence of the plan, and founded on no leading idea, contains many valuable observations, and will well repay a careful perusal.

Now, at present, we are inclined to refer all the so-called elementary bodies to the operations of one force upon one matter; *our science tends in that direction*, and the dæmons of those early philosophers bear some resemblance to the hypothesis which makes heat, light, electricity, &c., consist in the vibrations of a subtile ether filling all space.

There is another remarkable proof of the relation between the conjectures with which scientific inquiry was commenced and the ideas which we have now before us in the present day, after having in the meantime, discovered a vast series of physical laws. This is afforded by the resemblance between the atomic doctrine of Leucippus and Democratus and the atomic theory of the present day.

While these conjectures were being made, active observation was enlarging the field of facts; and when we arrive at about the age of Aristotle, we can see in the *encyclopædia* of this wonderful man, in the works of Hippocrates and others, the full development of ancient science.

1. In the abstract sciences, where pure intellect alone was required, very great progress had been made. In geometry, models of investigation had been obtained, which neither the industry nor the genius of future ages has been able to render more perfect; and much the same may be said of metaphysics and logic.

2. In the sciences of simple observation, as in botany, anatomy, natural history, &c., very great progress had also been made, and a right method of investigation pursued.

3. Those branches in which the ancients were especially deficient, and where their modes of investigation were also defective, were sciences in which experiments were required. In order to satisfy ourselves of this, it is only necessary to compare the physics with the natural history of Aristotle. The former is a mass of conjectures frequently absurd; the latter for the most part a judicious record of observations. In the purely physical sciences, little can be done except by the investigation of prerogative facts; that is to say, in the time of Aristotle experiments and instruments were required, and the arts were not yet in a condition to assist the inquirer in a material manner. Let us consider what would now be the state of science had we not attained such perfection in the manufacture of glass?—without microscopes and telescopes, and retorts and tubes, there would be hardly any natural philosophy, chemistry, or physiology.

In one word, where the ancients could not experiment they conjectured.

4. In medicine there was a great deal of careful observation and much hasty and vague conjecture. The resources of the physical sciences were not at the command of the ancients: their physiology was very defective. They applied the crude physical theories of the day; and there is much similarity between the kind of speculations respecting the causes of disease indulged in by the Hippocratic writers and the hypotheses of the early philosophers.

When after the long night of barbarism which followed the downfall of the Roman empire, the flight of the learned Greeks before the conquering Ottomans carried the study of the ancient writers into Europe, the arts had been gradually making great progress, and the effect of the lessons derived from antiquity upon the minds of the energetic nations of the west was very different from what it had been with the slavish and degraded Greeks. Still for a long time after the revival of letters the aspect of science was very much what it had been in ancient Greece. The scholastic controversies of the middle ages were passing away; but the doctrines of the ancient sects were professed in the universities of Europe, and Aristotle in particular was almost worshipped, and his works esteemed a sort of bible of science. Great stress in particular was laid on his physics, the worst part of his philosophy. But the alchemists had laid the foundations of an experimental study. Several reformers had attacked the doctrines of Aristotle; some experiments had shown the fallacy of his physics; and, above all, the arts had become capable of furnishing real aid to the inquirer. Great observers, like Vesalius and Gilbert had flourished. Then arose Bacon. The great man did much. He proclaimed the omnipotence of common sense; he showed the madness of the theosophists, the extravagance of the alchemists, and the pedantry of the schools; he boldly attacked the peripatetics or Aristotelians, who occupied nearly all the chairs of the universities; he insisted on the necessity of observation, and especially he showed the value and power of experiment; he always kept in view the great importance of medicine, and exhorted its cultivators to work in the right direction, and abandon vague speculation and too great reliance on authority.

"Trust not the frantic or mysterious guide,
Nor stoop a captive to the schoolmen's pride;
On nature's wonders fix alone thy zeal:
They dim not reason."—*Wanderer* of SAVAGE.

In considering the share of merit due to Bacon and to the illustrious confederates who, nearly contemporaneously with him, laboured to change the direction of the energies of mankind, the first place is undoubtedly due to the immortal author of the "Novum Organum." He was the legislator of science. He was like Moses who led his followers to the promised land. In the language of Morhof, "Ille enim aliis negotiis impeditus digito quasi ostendit vias, quas agmine facto jam occupant multi."

Others joined in the glorious enterprise; but he gave permanence to the efforts of all. In the battle array against the peripatetics, he was the general, though there were others, brave soldiers. In building up the edifice of science he was as the architect, they the skilful workmen. Or while such as Galileo acted as the grand pioneers who levelled the paths of science and removed the obstacles, Bacon, aloof, as from a lofty tower, planned and directed the march of the intellect.

(To be continued.)

A Lecture
ON THE MENTAL AND MECHANICAL OBSTACLES PRESENT IN THE DEFECTS OF SPEECH,
TERMED
STAMMERING AND STUTTERING.

Delivered at the School of Medicine adjoining St. George's Hospital.

By JAMES WRIGHT, Esq.

Stammering and Stuttering erroneously confounded. Definition of both. Means for removal of stammering: deliberation and mental discipline. Instances of Addison, Charles James Fox, and Sir Charles Bell. Stuttering is an effort to speak without the proper use of the vocal organs. Furling of the velum pendulum palati. Use of explaining to the patient the physiology of vocal sounds. Names of letters not identical with their power: mechanism of the pronunciation of some. Mechanism for acquiring distinct utterance. Intonation determines the incompleteness or termination of a sentence. Examples. Organs and physiology of articulation. Voice and articulation not synonymous. Errors of speech remediable by exercise and determination. Analogy presented by the machinery of a watchman's rattle. Production of the mutes and liquids. Division of the frænum linguæ seldom necessary. Lisping. Most of the defects in utterance originate in the indolence or ignorance of persons having the care of children. Relaxation of the velum. Inefficiency of artificial palates, from their having no effect over closure and opening of the nasal passages. The invention of Dr. Stearns. Importance of due action of the velum in the production of speech. Examples of treatment without surgical interference. Instance of dentition concerned in inability to utter speech. Probable derangement of the respiratory system a cause. Treatment of persons who have been deaf and dumb. Stuttering dependent upon abnormal actions of the pharynx and velum pendulum palati. Anxiety of stutterers as to their incapacity, and indifference of indistinct speakers without organic defect.

THIS is the second time of my having the honour of addressing you, gentlemen: it is with the united consent of the lecturers of this school, and their entire approbation, that I am before you at this moment. Upon a former occasion, I remarked, that, with respect to impediments of speech, there is a discrepancy of expression, that every sort of hesitation and interrupted utterance is called by one name; so that, according to the fashion of the day, incontinuity of voice and mental hindrance—that is, vocal and respiratory stoppages, on the one hand, and the want of intellectual readiness, (but unconnected altogether with physical interruption,) on the other, have been confusedly designated and blended together by one indefinite term—stammering. Now, a tedious reiteration of whole words, and a faulty and painful substitution of letters, with difficult breathing, are not identical. The difference is self-evident. One is a pure mental impediment; the other is not only a mental, but also, and principally, a physical interruption.

[The learned lecturer here exemplified stammering and stuttering.]

This latter impediment is not stammering over words, but stuttering at letters, and converting vowels and liquids to mutes.

In reference to the removal of the former of these infirmities, which we justly call stammering, the practical means which may be recommended are these: viz., presence of mind, reflection, mental control and discipline, much caution, and in most instances, a measured and moderate slowness of utterance. For the cure of stammering, the utility of such means as these are apparent.

That many public speakers have this infirmity cannot be denied. Call to your recollection the circumstance of the great Addison! He "conceived three times, and brought forth nothing!" Hence in the *Spectator*, he called himself "the silent gentleman!"

Call to your recollection the very eminent statesman, Charles James Fox. Certainly, it could not be said that the topics and questions which were brought forward by that great man were heedlessly and carelessly delivered! Still, it must be admitted on all hands, that his delivery seemed at least to be precipitate, because his repetition of words and clauses was constant and frequently excessive; which arose, probably, from an overheated imagination, and a certain transcendent ebullition of feeling. It might be said, however, that had such feeling been checked, mischief would have been done to the constitutional ardour of the speaker; and that had Fox in his ripened and advanced life attempted to alter his accustomed reiteration of words and clauses, by speaking calmly, and perhaps cautiously, and with deliberation, though his delivery might have been rendered more regular, and, in one sense, fluent; still, possibly, it would have been deprived of its unction and ripeness, its spirit, its force, and climax.

The name of Sir C. Bell is familiar to us all! That highly talented man confessed to me, that, in early life, he experienced considerable inconvenience and anxiety, whenever he spoke in public; but that the infirmity was conquered by putting to himself the questions—"*Am I qualified to teach*? Let me look around? Is such an one better able?" "He speaks readily, and without mental stammering and embarrassment; his words are ready, and they express what he means; he speaks with confidence. *And so will I!*" "From that moment," said he, "I took courage! I was a young man, and began to speak quietly, and with great caution; the conflict was great, but I succeeded."

Gentlemen, you agree, I am sure, when I say that Sir C. Bell was acknowledged to be, as a lecturer, one of the best speakers of his day.

Persons who tediously repeat words are generally rapid speakers. The best way to remedy such an inconvenience is not to speak more or oftener than absolute occasion may require, and when such a person does speak, then he should utter every sentence with caution; he should endeavour, nay, painfully struggle, to correct the rapidity, and give a comparative slowness to the delivery; and never, if possible, needlessly to utter a word twice.

It may have been observed, that many tediously slow speakers stammer or repeat words. To such persons I would say, let your delivery be as slow as you please, or as deliberate as your taste may dictate, but never reiterate your words. Conquer the wearisome habit, and, afterwards, speak a little and a little faster, till at length you reach the time and rhythm of natural speech.

I have defined stuttering to be an effort to speak under certain unfavourable mental impressions—under a real or supposed physical inability—and I have affirmed that it is an effort to speak without the proper use of the natural and efficient causes of fluent speech; that it is a struggle to accomplish what, under particular circumstances, is decidedly impossible; that it is a deranged action of those organs of speech which are assigned by Nature for the utterance of the consonants called mutes, with a faulty effort of the will to prolong their sounds, like those of the liquids and vowels; that, from such deranged action, stuttering is stopped or drawn breath, which changes the muscles of respiration to those of volition.

In neglected utterance, and confirmed stuttering, from an improper use of the velum pendulum palati, (that is, in its furling up, at the nasal liquids, and preventing the breath and voice from passing through the nares,) the letters *n*, nasal *g*, (as in *ing*,) and *m*, are consequently changed to the mutes *d* or *t*, hard *g* or *k*, and *b* or *p*. Such a simple but deranged action as this, with frequent and fruitless struggles to give prolongation to the substituted letters, causes interruption of voice, and painful stoppages of breath, contortions of countenance, and wry motions of the body.

A person labouring under an impediment of this nature, seems, at times, to be impressed with a notion that he is unable to utter a single word, or even an element of speech. Upon some especial occasions, he has no confidence in his physical ability.

Now, the question returns, what is likely to remove his embarrassment, give him proper confidence, and enable him to speak, at all times, without interrupted utterance? The answer is ready. That advice which explains, upon grammatical and physiological principles, the mechanical operations of fluent speech; that method which recommends philosophical analysis and steady practical application; that system of instruction and encouragement which is applicable to the feelings as well as the reason; that treatment and domestic care which are essential to the establishment of mental and bodily health.

In order, therefore, that he may learn to speak with freedom and fluency, and acquire a proper degree of self-possession, it is evident, I think, that the adult stutterer should endeavor to comprehend the mechanism of fluent speech. He should make himself acquainted with the nature and use of all the organs, breath, voice, and enunciation, as connected with the elementary principles of mute, sibilant, and vocal letters: by which means, with sound physiological and elocutionary training, and with mental discipline, and practice,—mental energy and continued perseverance, seconded by the kind, but, at the same time, judicious encouragement of his friends, he may acquire perfect freedom from all doubt of being able to speak; and, by degrees, obtain a safe and well grounded confidence.

But there are other physical impediments of speech, which are totally different in character, perfectly free from vocal and respiratory stoppages, such as confused and indistinct articulations, contrary substitution of vowels and consonants. These, also, demand our attention.

The cause of such impediments is different from that of stuttering. The cure, nevertheless, is, in some sort, connected with what has been already advanced. The circumstances of cure, I say, are applicable to lingual, guttural, and palatine imperfections, whether fluid or interrupted; and the system is connected, in a modified sense, with cases also of the dumb,—with such cases, I mean, where deafness has been ameliorated, or entirely removed. Presently I shall bring to your notice particulars of the case of a young lady, who was introduced to me four months ago, by Mr. Pilcher, your lecturer on aural surgery.

In discoursing upon infirmities of speech, from simple defective articulations to complicated instances of stuttering, and painful stoppages of breath and voice, the propriety of analyzing speaking sounds is quite apparent. I repeat, that there are modifications of voice which are not synonimous or identical with articulation. The many positions, and prompt movements of various parts of the tongue, the progressive actions of the jaw, and the correspondent lateral and longitudinal motions of the mouth, for the production of the vowels, have been explained in elucidation of a doctrine which is at variance with popular theories.

It has been felt and acknowledged that the name of a letter is not identical with its power. This was clearly seen in the designation of the very first letter of the alphabet, which is manifestly a dipthong, commencing with the long sound of the vowel, as in *fāce*, but ending with *e*, the sides of the tongue touching the lower anterior molar teeth. Now, this name has no more to do with the power ā, face; ă, ăt; o(r), all; ā(r), ārt; u(t), schol*a*r—than the Greek alpha! And though orthoepists and physiologists may go hand-in-hand with respect to *w* and *y*, it is certain that *w* preceding a vowel, as in *woop*, is not *oo*; neither is *y* the vowel *e*, as a prefix to *e* in the pronoun *ye*. In pronouncing or repeating *oo*, the lips are inactive, but in articulating *woop*, the lips are partially *constricted* for *w*, and the jaw falls for *oo*, whereas for *oo-op* the lips are quiescent, and the jaw is stationary. With respect to *ye*, the jaw is raised for *y*, but falls for *e*. Both in *w* and *y* initial, a breath, murmur or sound may be distinctly heard, but in *oo* or *e* there is none whatever—*oo-oo*, *ee-ee*.

Now whether the object be to assist the patient, whose utterance is an instance of lingual, guttural, and palatine imperfections, or to aid the sufferer who was born deaf and dumb, but who has since, by judicious medical treatment, obtained the power of distinguishing the differences of sound, it is self-evident that the elocutionary examples, for the comprehension and imitation of either patient, should be correspondent—that is to say, they should be philosophically correct, and normally concise, and that every element, in such examples, should be quite distinct, and perfectly true to nature.

The exercising the organs of speech properly constitutes what is termed distinctness of pronunciation: the mouth must be fitly and suitably opened for the utterance of each vowel; and without any hazard of being confuted, it may be said that the vocality of language is altogether dependent upon a clear and distinct utterance of the vowels. Each or every modification of a vowel demands an appropriate aperture or opening of the mouth, and a free use of the jaw. One aperture cannot be substituted for another. And with respect to consonants and their normal articulation, every appropriate organ must promptly perform its office, and the lungs and larnyx must correspondently supply each consonant with either a whispering or an audible voice.

To attain an easy utterance of these elements, the student and patient should be made familiar with the nature and power of the organ or organs which are requisite for their production, and this cannot be more easily and more satisfactorily ascertained than by adopting the plan of practising them with a vowel preceding each, as *ab*, *ac*, &c., by which means it will not be difficult to judge of the respective power of every one of them.

The ready way to prevent indistinctness of speech in young people is never to urge them to speak a word containing any letter which they cannot first properly sound by itself; on the contrary, as far as possible, they should be discouraged from making the attempt. In this way children will acquire a distinct articulation, which is the foundation of fluent speech; and if it be not laid in the first simple elements with the utmost care and exactness, Quintilian, one of the best judges of antiquity, did not scruple to affirm, that whatever superstructure we may labor to raise on it, must fall.

Audible voice is produced by a set of muscles acting on that cartilaginous cavity at the top of the trachea, called the larynx, while the air is passing through the glottis and the pharnyx. Voice so produced is capable of certain modifications. One of the principal circumstances to be regarded in first attending to the speaking voice, it will be remembered, is its power of conveying, by one single percussion, independently of articulation, an idea of continuation or completion. In further explaining to you this principle, it will readily occur to you that every conversation marks this distinction; that in every part of a discourse the accentual voice suggests either that the speaker has or has not finished a sentence. The modifications of the voice signifying continuation and completion, in their fullest meaning, are discernible even in a monosyllable; but, perhaps, to the untutored ear, these characters of sound might be more easily detected in words of more than one syllable, the accent of which is at their beginning—viz., prèference, pòpular, chàstity, èxercise, tèmperance, &c.

"Exercise and témperance strengthen the constitution." The constitútion is stréngthened by èxercise and tèmperance." The positive *utility* of these modifications of the voice is clearly demonstrated by the following examples, showing how the meaning of a sentence is altered by stops or intonation:—

"Nothing will ever be attémpted. If all possible objections must first be overcome, if so, then, let it be asked, 'Upon what can we speculate? Matters of fact?'" Now, what have I said? The reply is—"You said that 'nothing will ever be attempted.'" "But that was not my meaning." No! How am I to know that? "By explaining the error of modulation." The fault arose, and you were misled, by my falling the voice, and stopping at the word attempted. Properly delivered thus:

[The sentence is then read correctly by avoiding a full stop at "attempted," and making a colon at "overcome."]

But further, and to show that there are modifications of voice which are not identical with articulation. Richard Brinsley Sheridan took an opportunity of exercising his ready wit upon an adversary in the House of Commons. Sheridan contended that the right hon. gentleman had misquoted one of his assertions, and not only marred, but overturned the meaning, by his delivery and twisted discordancy of voice, which put him in mind of a facetious placard that a barber displayed at his shop window. It read thus: "What do you think! I'll shave you for *nothing*, and ask you to drink!" A sailor with a long beard, passing by, espied the placard. Having little money, and being rather thirsty, he took the charitable hint of the barber, entered the shop, and requested to be shaved. However, he soon found out that he had made a blunder. In reading the paper the sailor twisted to an opposite direction the barber's equivoque, which was, "What! do you think I'll shave you for nothing, and ask you to drink?" The anagram riddle—

"I saw a peacock (;) with a fiery tail
I saw a comet (;) shower down hail," etc.—

will serve as an example of the necessity for properly regarding stops.

To enter into the theory of inflexion, and fully to explain its entire use, would take me from my present purpose.

Articulate speech, therefore, may be accompanied with certain intonations and inflexions of voice, as symbols of grammatical construction and of emotion, yet it is to be comprehended that those intonations are not in the least analogous to articulate speech.

Articulation, you know, is occasioned by certain interruptions of the voice or breath, affected, more or less, by the actions of the *glottis*, *tongue*, *hard and soft palate*, *uvula*, nostrils and cavities of them, and the *teeth*, *lips*, and *jaw*. When the common current of breath is urged more forcibly through these various apertures of articulation, without much affecting the larnyx, we have an instance of the indefinite sound, known by the name of the whisper. In audible voice, the air, while passing from the lungs to the mouth, must, little or much, affect the larynx and pharnyx, in proportion to the quantity, quality, or character of the voice which is produced.

If the nasal passage be opened, the whole diversity of sound may be distinctly heard, though the mouth be shut; and from this may easily be conceived, that as the sound of the voice, as to high or low, depends upon the diameter of the rima glottidis, or orifice of the glottis vera, with the tensions of its ligaments, or chordæ vocales, and the actions of the pharynx, with other causes, possibly, but not upon the organs of enunciation, the the whole diversity of syllables may be accomplished, in any one note of a diatonic or chromatic scale in music. In singing, the leaps or intervals of voice may be heard, understood, and compared with any note of the same measurable gamut or scale, after the articulation shall have ceased. The terms, voice and articulation, in singing, therefore, are not synonymous; neither in speech is articulation the same as the inflexion of the voice. An inflexion may be heard and accurately defined, independently of articulation. Articulate language is audible or whispering voice modified by the various organs of enunciation. Articulation is distinctness of pronunciation; it is a method of speaking, or whispering clearly and distinctly, so as not to confound or blend one voice or sound with another.

From indiscreet and irregular training with respect to the organs of speech during early life, are to be traced many instances of faulty articulation, which sometimes are obstinate and require considerable labour, patience, and perseverance, to overcome; such, for instance, as a nasal slothlike enunciation; such, sometimes, even as the Northumberland *r;* such, again, as the articulating *t* or *d* for *g*, as in the word *diligent*, or *j* in the word *just;* such as a monotonous drawl instead of a sensible inflexion and variety, an intellectual and natural, a lively and a pleasing modulation. In a youth, or even an adult, having the organs of hearing, and those of utterance, it would be idle to say that any one of those impediments, or all of them, are not to be removed by sound grammatical and physiological exercise; it would be trifling to say that they are not to be cured by practical energy and constant willingness of mind, on the part of the pupil, to realise the correctness of rational theory.

If a young person be late in beginning to talk, and he be urged prematurely to pronounce the letter *R*, that is, before the tip of the tongue have been duly exercised with the mute dentals, and *th*, there is every probability that faulty action would be given to the dorsum, and that the Northumberland "*burr*" would be produced. An attempt to vibrate *r* by the dorsum against the palate instead of the tip of the tongue against the gums, is called the "Northumberland *burr*." The normal or vibrated motion of the tongue against the gums may be well described by the clapper of a watchman's rattle; it is only to suppose the end of the clapper the tip of the tongue, a tooth of the wheel the front part of the hard palate or gums, and the circular action of the wheel the vocalized breath which gives the vibratory motion to the tongue.

This impediment may be removed, and an efficient action given to the tongue against the gums, by practising such words as have *d* or *t* connected with *r*—viz., *dread*, *tread*, dray, tray, &c., or *th*, prefixed to *r*—viz., throng, three, &c.; when the withdrawing of the tongue will probably assist.

But it may be said, "Is the position of the tip of the tongue for *d* or *t*, accurate with respect to the free use or vibratory motion of the organ for *R?*" The reply is, "No!" Both *d* and *t* are mutes; that is to say, the *organs for their production prevent the breath* and voice (the velum being furled up) from passing through the nares; and the tip and sides of the tongue being closely and firmly applied to the gums or front of the hard palate, exclude the breath and voice in *this* direction. *R* is a liquid or prolonged articulation; that is to say, the tip of the tongue, the principal organ for its production, by a sort of springiness, permits a partial escape of breath and voice, similar, in one sense, as I have already said, to the clapper of a watchman's rattle; or the elastic power of the tongue in the vibrations of *r* may be exemplified by similar actions or movements of both upper and lower lip.

Some years ago, a German applied to me for elementary instruction in English pronunciation. Upon endeavouring to make him comprehend that the difference between the middle and soft mutes is the moveable or quiescent state of the vocal chords, and upon exemplifying them in this way —*b b b*, p p p, d d d, t t t, he, not comprehending at once the force of physiological and grammatical arguments, mimicked me—b b b, p p p, and then said pun. But, however, upon further descriptions and explanations—upon showing that in whispering the soft and middle mutes there is no discernible difference—and upon explaining the "why?" because the vocal chords are in a quiescent state for both—my friend then altered his tone—"That is very good." His funny note of disapprobation, in the first instance, with the upper and lower lip, however, was an apt elucidation of the elastic temperament of the tip of the tongue against the gums for the production of *r*.

We sometimes hear of dividing the frænum linguæ for the removal of this faulty habit; but there would be no difficulty in maintaining, that if an individual can protrude the tongue half an inch, or a little less, or, at the utmost, three-quarters of an inch, there is not, nor can there be, any occasion to do mischief by performing this painless operation. During the whole course of my observation and practice, I have not met with more than one instance where division was requisite, and that was at Ealing School, in the case of a young gentleman: Mr. Cooper, surgeon, of Brentford, at my request, snipped the chord. The youth was enabled instantly to touch the proper part of the hard palate, and after a month or six weeks' practice, he was enabled to give the vibratory motion to the tip of the tongue, and pronounce *r*.

Ten or twelve years ago, I remember to have met with an instance in a young gentleman, where there was an organic deficiency. Though he had no frænum, this young gentleman was completely tongue-bound. Of course, *he* could not be made to vibrate *r*.

On the other hand, upon the same principle, if a child be urged to articulate *s* before the cutting of the molar teeth, and subsequently, before an efficient action shall have been given to the jaw, and after the loss or shedding of the incisor teeth, he being too frequently pressed to speak plain, as it is called, would very likely lisp. The defect of lisping—that is, the pronouncing of *th* instead of *s*, may be removed by closing the teeth, keeping the tongue from them, and by repeatedly uttering such monosyllables as have the hissing sound joined with the vowel *a*, as in *face*, *base*, &c. This, however, does not always succeed, but the summary method of gently tapping the jaw at every faulty articulation of *s* and *z*, and thereby causing the tip of the tongue to be pinched a little, is rarely known to fail.

Hence it may be suggested that the greater part of such defects in utterance and impediments originate in the indolence or ignorance of persons concerned in the management of children.

The mischief unfortunately, however, is not suffered to end here; for no sooner does the fond parent discover the thickness of speech of her little boy, than a superannuated grandam declares, that "Master Edward is tongue-tied." The poor boy is then hurried away to have the frænum divided. This not answering the intended purpose, the tongue is pronounced to be disproportionably large! Upon such an injudicious practice it is unnecessary to offer another remark.

It may now be explained that if the *velum* of a young child be tardy in its action, and more disposed to hang down than to furl up, unless prevented, he would speak with a continuous nasal insufflation. However normal and perfectly well formed might be the soft palate of the child, this would be an instance of impediment closely resembling one of organic defect. It calls to my recollection the case of a young gentleman, where there was deficiency in respect to the uvula and part of the soft palate. This youth had the power, by means probably of the glands or some action of the defective velum, to utter the mute consonants, but not without a nasal articulation. In this case, in order that the deficiency might be supplied, a surgical operation was recommended. Sir Benjamin Brodie dissuaded the party from consenting to it; the attempt, in consequence, was not made. Admitting, however, that the operation had been successfully performed, and that the part of the curtain or soft palate which was wanting could have been supplied, and the whole of the uvula could have been formed, I feel assured that no benefit in regard to articulation would have been derived from it, unless muscular power could have been given to the produced organ to act upon the nasal passage, so as to prevent an escape of breath and voice, through the nostrils, during the utterance of the mute letters.

For the amelioration of such a defect, a gold palate has been usually recommended. The following description of an impediment will answer a double purpose. It will show the utter uselessness of the lifeless agency of an entirely hard substance, and the efficient power of one, combined with a moveable apparatus, to act in the direction of the nasal passage,* the ingenious contrivance of an American gentleman, who presented himself to me at this school three years ago.

The patient whom I am about to describe was an adult, and wished to take holy orders. From the peculiarity of his case he could not be admitted. This was an instance of division of the upper lip, a total deficiency in the uvula and all the hard and soft palate. His friends had recommended the use of an artificial or gold palate; but which, when procured, did not answer the purpose. It failed, of course, in the main point,—in the power of closing and unclosing the nasal passages. His dentist introduced this gentleman to me, and recommended him to receive elocutionary instruction. But although he was taught to speak much plainer, and though he learned to use, with adroitness, the organs which he possessed, and to speak so as to be perfectly intelligible in a private circle; still, from the utter impracticability of his uttering the mute consonants, and from the excessive expenditure of breath, and consequent exhaustion, which, in his case, would necessarily follow the labour in speaking in public, he was compelled to abandon the thought of presenting himself as a candidate.

In such instances as this, where there is a total deficiency in respect to the soft and hard palate, uvula, and lips of the mouth, the consent or harmony in the lungs, glottis, pharynx, and tongue, is doubtless, seldom or never checked: and for this plain reason,—because the organic deficiency which has been described prevents the possibility of articulation with regard to the mute elements. To compensate for the inconvenience of having no velum, the introduction of an artificial and inflexible hard curtain would be of little or no use, while the exceedingly convenient, and, at the same time, pleasant contrivance of Dr. Stearns, the American physician whom I have just alluded to, would nearly perform every essential purpose of the velum pendulum palati. It is now upwards of two years since the instrument was introduced, but I am fearful the inventor did not meet with sufficient encouragement to induce him to carry out his plans; or there might have been some objection to the method of fastening the apparatus, so as to render it quite harmless to the teeth.

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* The invention has been satisfactorily described, and ably advocated, in THE LANCET.

It may now be comprehended, that if the velum be tardy in its action, and, on the other hand, more disposed to furl up than to hang down, and the young person be hectored into a hurried manner of speaking, it is more than probable that he would stutter. To prevent impediments of speech is much more easy than to cure them. The qualifications of tutors, as far as the utterance of the children who are placed under their care is concerned, are patience, kindness, and gentleness, combined with steadiness, firmness, and perseverance; as the infant, or rather the little child, is taught to speak, not by rule, but entirely by imitation, the qualifications for nurses and servants are, distinctness of articulation, and slowness and deliberateness of speech.

To return. If contrary and confused actions in the organs of enunciation, independently of checked and irregular breathing, were of a nature to induce interrupted speech and stuttering, the following instances in two young ladies, whom I had the pleasure of instructing some years ago, would be illustrations. But the reverse is the fact. They were sisters: one was six, the other ten years of age. The breathing of both was prompt and regular; both had command over the soft palate and vocal chords; but it is hardly conceivable to imagine enunciation more indistinct, complicated, or unintelligible than theirs, excepting in those young persons who were born deaf and dumb, but have just obtained hearing, and are beginning to talk. Their impediments did not arise from any organic defect. By showing, and directing the various and proper positions of the enunciating organs, they were taught to speak distinctly and intelligibly. Nevertheless, before the impediments were cured, their pronunciation, with all its faults, was perfectly continuous; it was not in the slightest degree interrupted.

The following descriptions of cases will further assist in showing, that stuttering is really occasioned by an improper use of the organs requisite for the pronunciation of the mute letters.

Upwards of twenty years ago the principal of Stockwell-park School requested to have my opinion of a little boy, literally dumb. The child was amusing himself in sparring with another little fellow, at some distance in the playground. I desired to examine him. Upon coming up, I began to play with the child. We doubled our fists, and had "a regular set-to"! After one or two rounds, I made a loud noise—I gave a yell. The little fellow by this time being quite at home, and at his ease, began to mock, and to try whether or not he could make as much noise as his new playmate. The affray, by way of experiment, proved some essential particulars—that he could *hear*, *observe*, and *comprehend*, and that he *had voice*, and the *power of imitation*. I looked into his mouth, but discovered nothing remarkable, otherwise than that the palate was unusually high and hollow. It then struck me that the boy must hitherto have been placed in a situation altogether unfavourable to nursery instruction. This turned out to be the fact; for I learned afterwards that he had not been trained or brought up at home under the care of a watchful mother. His speech had been neglected in his earliest infancy; he had not been shown how "to talk." I ventured to give an opinion in opposition to that of two gentlemen, surgeons of the school, that the child might readily be taught to speak. The method to be pursued was plain and easy: it was that of repeating words by imitation, in precisely the same way in which little children, in the first instance of infant teaching, are enticed to say "Papa" and "Mama," and persevering in the exercise until the ear be accustomed to receive and detect the difference in vocal articulated sounds, in correspondence with the objects for which they stand. The plan succeeded. The child was soon able to derive benefit from the instructions of the junior master of the school. The respirations of this little boy were regular, and his speech, in beginning to talk, was perfectly continuous.

In correspondence with this case, that a child may be dumb, and yet not deaf, is the following instance in the work of Dr. Ashburner on Dentition, p. 104:—

"That the mind should be clear and intelligent; that the expression of countenance, in a child six years of age, should indicate the possession of an understanding even beyond his years; and yet that he should never have spoken, *although he was not deaf*, appears strange. What entanglement of development was there that prevented the mind from commanding the organs concerned in articulation? The jaws had always been too small for his teeth; they took a start in growth; the first permanent molares were cut; the spaces between the teeth became wider; the pressure was taken off from the dental nerves; the organs with which they were associated in error were free; and the boy was taught to speak."

It is perceivable that this quoted case is a little different, perhaps, from that of the boy in Stockwell-park School; and in some essential points the following case differs from both:—

A young gentleman, eleven years of age, was introduced to me some time ago, at Eagle House, Brook-green. The youth had received good nursery instruction, and spoke, I am told, with fluency at the age of three. At that period he was seized with an attack of fever, and was bereft of the power of speech for three months, during which period, though he could hear, he was completely dumb. At the end of the third month, he made an effort to ask for water, and then for the first time he stuttered. His health was shortly afterwards restored, but he still continued to stutter, and to speak with greater and greater difficulty. Upon his introduction to me it was exceedingly distressing to hear him. In every attempt to speak, his breathing was painfully checked, as much when he attempted to pronounce the vowels as the mute consonants. Every effort to articulate was accompanied with wry motions of the body, sudden starts, and violent contortions of countenance. The cause of this impediment was doubtless a derangement in the respiratory system. Upon quitting Eagle House, to go to Winchester, the boy spoke with comparative ease.

I now call your attention to an exceedingly interesting case, in a young lady who was quite deaf and dumb during the first six years of her life. She has now attained the age of fourteen, and was introduced to me, four months ago, by your lecturer on surgery. By the able advice and judicious treatment of Mr. Pilcher, the faculty of hearing is gradually developing, which renders this young person capable of distinguishing and imitating sound in a moderate degree, and of attempting to utter the first principles of speech. Previously to our acquaintance she expressed herself by a sort of heterogeneous jargon, intelligible only to her relatives, and those persons around her. The time, however, for efficient teaching arrived, and the system which I have adopted is suitable, and corresponds with the leading principles of mental and physical training.

The means of cure are now in full operation; they are practically drawn from the theory of the voice and its intonations, from my theory of the vowels and their progression—as already explained and elucidated to you in the lateral and longitudinal openings of the buccal and oral cavities; from the theory of vocals and sibilants—the labial, dental, and palatine mutes; from the oral and nasal liquids, and all the elementary principles of normal articulation; together with their physical causes, the various inflexions of the tongue, the lips, the jaw, and the soft palate.

My patient has now taken a start, and is beginning to speak out the vowels and some of the leading elements intelligibly; and she will, no doubt, with patience and perseverance, as her hearing advances, speak fluently, easily, and well.

The speech of this young lady, with all its past and present imperfections, is quite continuous; and thus have we another instance, gentlemen, of normal applications of the velum, with confused actions in the other organs of enunciation, which do not engender stuttering.

It has been proved that substituted articulations will not engender stuttering, so long as the velum and the pharynx are normally prompt in their actions. It has been also shown, that if the velum be quick in its action, and more disposed to hang down than to furl up, the murmur from the glottis will easily combine with the actions of the pharynx; but the voice will be nasal and continuous. On the other hand it has been demonstrated, that if the velum be tardy in its action, and more disposed to furl up than to hang down, the muscles of respiration will be in danger of receiving a check, and the breath and voice being stopped at the oral or buccal and nasal passages.

In support of these doctrines, you have, doubtless, seen many a case where there was a deficiency in respect to the soft palate or velum, and you may have observed, that, in every one of them, the utterance of the patient was uninterrupted, or, in other words, not in the slightest degree a stutter. We therefore conclude, that where persons merely substitute letters, their enunciation being continuous, with an utterance, nevertheless, defective and thick, confused and complicated, such persons do not stutter, so long as they continue to have power and command over the organ which closes the nasal passage, and over those which are essential to the fluent utterance of the mute consonants; and we may also safely conclude that those individuals whose structure is imperfect in respect to the organ which closes the nasal passage, and to the hard palate and lips, never stutter; which is a powerful argument in favour of my views respecting the mute letters, and the velum pendulum palati.

One or two words before I conclude. With respect to these two classes of persons with defective speech—the individuals who stutter and those who do not, there is a material difference in point of moral temperament. Those who merely substitute letters, or, in another sense, speak with an unintelligible indistinctness, seem, with very few exceptions, not to care for the infirmity, nor to be over-anxious about correctness; while those who stutter appear to be scrupulously exact about vowels, liquids, and mutes. In attempting to say such a word as *mad*, and not having command over the actions of the velum, the stutterer would boggle at *b*, and struggle to prolong its sound; that is, convert *b* into the nasal liquid *m*, or in other words, he would try to articulate *m* with the nasal passage closed. He would not be content to say *bad!* whereas the other, whose articulation is complicated, indistinct, and full of error, but nevertheless continuous, would be under no alarm, and and would readily say *bad!* "He *ith*(s) *th*(s)tark *bad!*" The stutterer being asked if he were *glad* that he could not say "*mad*," he would answer, "D-d t-t no;" if the other were asked if he were *sorry* that he could not say *mad*, he would immediately and unhesitatingly reply, "*Do, I ab dot!*"

THE SALTS OF MORPHIA.—M. Mialhe, of Paris, is of opinion that opium, either in the shape of extract or tincture, ought to be entirely discarded from practice, as the proportion of active principles in this drug is extremely uncertain, both from natural causes, and through adulterations. He has found that in the varions kinds of opium of commerce, morphia varies from seven grains and a half; or, in other words, from one-half to ten per cent. In adulterated specimens—namely, in a substance which merely imitated opium —he has found only six parts of morphia in 5000. M. Mialhe infers that morphia alone should be used in medicine, and that this principle should drive away opium, as quinine has replaced bark.

ON THE PHYSIOLOGY AND PATHOLOGY OF THE GANGLIONIC NERVOUS SYSTEM.

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> "There are yet great truths to tell, if we had either the courage to announce, or the temper to receive them."—Disraeli.

CHAPTER I.

On the Nisus Formativus, or the Solar Ganglion. The ganglia of the sympathetic; the nervous structures first formed in the fœtus. Monstrosities. Strictures on the opinions of Drs. M. Hall and Roget. Mr. Lawrence's case of acephalous monstrosity. Dr. M. Hall's division of the Nervous system; his experiment on the frog. The author's experience. Le Gallois. Hunter. Sir B. Brodie's experiments open to objection. Animal organization, its arrangement and adaptation; mind and instinct.

The object of the following papers is to prove that *Life* is the function of the *Solar Plexus*, regarding it as the *root* of the ganglionic or sympathetic system. That the *Solar Plexus* is the *impetrum fuciens* of Hippocrates, or the *materia vitæ* of Hunter; that it is the *organ* whose *function* may be represented as the principle or stimulus which enables every other and subordinate part in the animal economy to continue its specific and allotted labour towards the existence of the individual; that both the brain and spinal cord, in common with all the viscera, hold a similar relation to, and dependence on, the *solar ganglion*, as the centre of the ganglionic system, that the iris does to the retina, or the external senses do to particular parts of the cerebral mass; and these opinions the author has privately circulated for the last *ten*[*] years—that is, since 1835—as is well known to many medical friends and acquaintances. I am aware that Dr. Stevens has also advocated some such views as these; but it cannot be doubted that the *priority* is not with him.

INTRODUCTORY REMARKS.

On the Nisus Formativus, or the Solar Ganglion.

The physiologist, if I mistake not, will consider that my position, as explained in the advertisement to the reader, must derive no inconsiderable confirmation, from the circumstance that the solar ganglion is that particular portion of our organism which is first formed in utero, and therefore may be really considered as the *germ* of all the phenomena to be afterwards developed.

Nothing can appear more reasonable than that that portion of our organism, from which every other takes its vitality, should enjoy a prior existence. The egg precedes the chick, and the specific vitality of the former is impressed on the latter. The foundation is erected before the house, and the design of the architect, it may be added, is not unfrequently to be anticipated by an early examination of it. Muller says, in his Physiology, translated by Dr. Baly, that "Ackermann asserts that the sympathetic nerve is the part first formed in the fœtus." Rolando moreover declares what has been usually considered as the first traces of the vertebræ at the sides of the spinal cord, in birds, to be the ganglia of the sympathetic nerve. The assertions of Ackermann and Rolando acquire great weight from the testimony of such men as Blumenbach and Gall, both of whom add the authority of their illustrious names, and confirm the former-named physiologists in their opinions. Blumenbach says, "the nervous system," meaning the organic nervous system, "of the chest and abdomen, are fully formed, while the brain appears still a pulpy mass," and refers to Gall's writings for the same views. He adds, "these ganglia and nerves would hardly be formed before the brain and spinal marrow, but for the sake of the organs which they supply, and the functions of which (with the exception of the genitals,) are as perfect at birth as at adult age, while the mind and brain are slowly perfected."[*]

Ackermann, Rolando, Blumenbach and Gall, all maintain, then, as I have shown, that the ganglionic or organic nerves of the abdomen and thorax are the first formed in the embryo. Now it is extremely unlikely that the development and formation of the solar ganglion—the centre and source of the organic nerves and their anastomosing branches—should be preceded by "*organic nerves*;" their dependence on it, it may be said, is analogous to the dependence of the branches of a tree on its root; and therefore I would claim for the solar ganglion a like precedence. Viewing the matter in this light, it is readily seen that the solar ganglion itself is, in the embryo, nothing more nor less than the *nisus formativus* of Blumenbach, and that, like it, it excites, even in its rudimentary existence, the elaborated fluids of the successful coition, and like it, it vivifies and shapes the hitherto shapeless spermatic matter partly into the beautiful containing ovum, and partly into the contained embryo.

The *nisus formativus*, we are told, occur to the genital matter, when this is mature, and committed to the uterus in a proper condition, and under proper circumstances, produces in it the rudiments of conception, gradually forms organs fitted for particular purposes, preserves this structure during life by nourishing the body, and reproduces as far as it can, any part accidentally mutilated.[†]

The "nisus formativus," says Dr. Elliotson, in a note, produces a being generally resembling the parents, but occasionally different." It is understood, then, that exactly what Blumenbach and Elliotson, in common with other physiologists, claim for the nisus formativus, I claim for the solar ganglion. I cannot doubt that it exercises the *architectural* power which is employed in man and animals—from man downwards, through the whole of animated nature, to the very lowest link in the chain of being; that to its peculiar and vital influence must be conceded, upon the grounds before stated, the wonderful and successive metamorphoses or changes which characterize, not only the intra and extra-uterine existence of the human form, but also that of animals, whether oviparous or viviparous, and under circumstances both of normal and abnormal action. No one, I think, would presume to explain the *modus operandi* of this power or influence of the solar ganglion; it is sufficient for my purpose that it exists. This question is involved, equally with that of the *cause* of gravitation or attraction, in a too Cimmerian darkness for my optics to penetrate.

If, from any cause, the organic affinities in progress in the fœtus be interfered with—if the balance which must obtain in the distribution of the imponderable matters in the organic tissues be disturbed, the action of the organism and of the separate organs may be so modified as to give rise to the formation of some one kind or other of monstrosity. An injury done to a seed during its germination is seldom unattended with ill effects. The radicle or the plumule will, the one or the other, suffer, and perhaps both. The injury done may be confined to one of these parts, and yet it may very seriously affect the vital principle in operation, and so modify or aggravate the original mischief. It is just so with the fœtus; any abnormal change in the component matter of any of its parts, may prove irremediable, and the effects of which being then communicated to the solar ganglion, may excite so altered a vital action in it as to prove incompatible with the complete or normal development of either itself or of those parts dependent on it; and hence the existence of monstrosities, of acephalous, and other malformed children, among whom the physical characters of the biped are more or less substituted by those of beings lower in the scale of creation. "Human monsters," says Blumenbach, "are not unfrequently met with who strongly resemble the form of brutes;" and it is "because the '*nisus formativus*,' having been disturbed and obstructed from some cause or the other, could not reach the highest pitch of the human form, but rested at a lower point, and produced a bestial shape." He adds, strangely enough—"On the contrary, I have never once found among brutes a true example of monstrosity which, by a bound of the *nisus formativus*, bore any analogy to the human figure."[*]

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[*] This and the succeeding chapters were written in 1845.

[*] *Mind* and *brain!* It is to be hoped that an improved acquaintance with the brain and its uses, will encourage the physiologist no longer to give to a mere function an individual existence. The brain happens to be the last of the bodily organs so perplexed with the spirit of the ancients

[†] Blumenbach's Physiology, translated by Elliotson, p. 499, "Of the "*Nisus Formativus.*" The word "*nisus*" Blumenbach says, he has "adopted chiefly to express an energy truly vital."

It may be asked, in the history of monstrosities, did any physiologist ever hear of *one* in whom there was no ganglionic system, no *solar ganglion?* I answer, no! Such an occurrence is wholly impossible. We have all heard of acephalous children, and of beings created without either *brain* or *spinal cord*. What, in such instances, sustained intra-uterine life? what enabled the body of the creature to be nourished and developed? What, I ask, was the source of all this vitality? The solar ganglion and its branches, the ganglionic nerves! "In fœtuses, without *brain* or *spinal marrow*," says Blumenbach, "the circulation, nutrition, secretion, &c., proceed *equally* as in others, which, besides spinal marrow, nerves, and ganglion, possess a brain," and for the same reason, he might have added, that after the removal or destruction of the *brain* and *spinal marrow* in animals, the heart still continues to act, and the blood to circulate, provided respiration is artificially supported." The *reason* is just this, the *solar ganglion* and its immediate dependencies are unaffected. With these *facts* before us, then, I must confess I am in ignorance of the "*experience*" which "shows that when the influence of the brain and spinal marrow is intercepted, although the afflux of blood may for a time continue, yet the secretion ceases, and all the functions dependent upon secretion, such as digestion, cease likewise." We are informed, too, by the same author, strangely enough, that "the functions of digestion, circulation, absorption, secretion, and all those included under the class of nutrient or vital functions, are carried on as well during *sleep* as when we are awake," that is, as well during the total *inaction* of the *brain* and *spinal marrow*, when the "*influence*" of both, must of course be "intercepted." Strange *experience* this.[*]

Dr. Marshall Hall, in his Lectures, published in 1842, "On the Pathology and Treatment of Nervous Diseases, evidently favours the opinion that the influence of the brain is necessary to the complete performance of the vital or ganglionic functions. "We find, says Dr. Hall, "that idiots with small brains are short-lived;" therefore "the animal functions cannot go on permanently independent of the brain." I take it that the imperfect development of the brain of the idiot must be regarded, only, as an indication of the mal-organized condition of the entire nervous system, including the spinal and ganglionic, not less than the cerebral.

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[*] Lord Monboddo, I think it is, who has considered that *man* once possessed a caudal appendage, or, in other words, a *tail;* and, if so, there seems reasons to believe, not only that Blumenbach has erred, in supposing, which he evidently does, that the "*nisus formativus*" has never bounded forward, and so realised a higher and more advanced organism; but, what is more, that the very clever author of the "Natural History of Creation" is quite right in regarding the genus homo as indebted to the monkey tribe for its origin and birth. To be serious,—there are facts in the history of man which, to my mind, satisfactorily demonstrate the capability of the "nisus formativus," under certain circumstances to "bound" onward. In the instances of the negro captain, Rammohun Roy, Prackrama Bahoo, of Ceylon; Carrera, of Central America, and Eustache, of St. Domingo, we recognise men, though born of parents belonging to an inferior order of being, as contrasted with the European, who, in the exercise of mental powers at once brilliant and profound, and in the full possession of energies as untiring as they were generally well directed, sought not only their own advancement, but their country's good; and who, actuated by a love of honest independence, and a spirit of honourable emulation, endeavoured with more or less success, to emancipate the oppressed, and promote the permanent and best interests of the community. Some objection may, perhaps, be rightly taken to *Carrera;* however, no one acquainted with his career in Central America, can deny him great talents and courage, and some virtue. Those of my readers acquainted with phrenology are, of course aware, that, as it is with the inferior animals, viz., the horse, dog, etc., so it is with man; the several varieties of each genus, whether that of man, horse, or dog, are characterised by specific and well-marked differences in the bodily organization, which always correspond to the habits, inclinations, and general capacities, mental and corporeal, of such varieties individually. Now, the individuals above named were, one and all, descendants of the inferior races of mankind, as compared with the European; yet does the life of each one present us with facts of such a nature as plainly indicate the possession of talents and capabilities, and even virtues, which belong not to their progenitors, else than as an exception, but are characteristic, in an eminent degree, of the highest branch of the Caucasian family of the human species. Such being the case, is it not fair and logical to conclude, that the "*nisus formativus*" did, in the several instances here cited, "*bound*" onward, and so realize a higher type of being; a fact, which, in my opinion, is plainly and satisfactorily demonstrated in the cerebral organization of the individuals named. The scientific world is in possession of the crania of the first, second, and fifth, and their organisation is such as belongs to the higher or European [Caucasian] type or variety of man. Physiologists are, I think, too apt to suppose that all temporary changes in the parent terminate with his or her existence, and that they or their effects are not transmitted to the offspring. I cannot help thinking that we have only to wait the happy occurrence of the necessary circumstances to reach yet a far higher and more subtle nervous organism than philosophers generally have yet dreamed of. The birth of such men as Pascal, Ferguson, Lawrence, Oberlin, Lavater, Melancthon and Gall, with some others, justify us in our anticipations. The operation of the same law of nature which preceded and attended the creation of either Rammohun Roy or Eustache, etc., is alone necessary, in the well-formed and beautifully organised European, to the existence of all that is really great and good in man. Such can be alone required to realize either the luxuriant fancy of the poet, or the highest and best hopes and aspirations of the heaven-born philanthropist. With reference to the "*certain circumstances*" above alluded to, I would remind the reader that the physical well being of man is quite indispensable to his moral and intellectual advancement. The use of wholesome and sufficient food, the respiration of pure air, good clothing, frequent ablution, and a proper amount of muscular exercise, are, combined, no less necessary to the amelioration and advancement of the mental powers, and the higher sentiments and affections of our nature, than is *education*, strictly so-called. The inevitable effect of a good *physical regime* is to improve the material organism of the brain and nervous system, and so impart a sound and healthy tone to their functional powers. To this end do the labours of Dr. Southwood Smith tend. The attention now being directed to the sanitary arrangements of our metropolis and great towns, will, doubtless, furnish the means of promoting, in an eminent degree, the perfect civilization of mankind. If, as we are taught, the same physiological principles, modified, obtain in the vegetable as in the animal world, then are we bound to admit that the transmutation of a common marine plant into the cabbage, and, not less, the transmutation of oats into barley, and even into wheat, authorise us to anticipate the creation, at some future time, of a *second* species of the genus Bimana, "*the highest type of animated being.*" [See "Natural History of Creation," p. 359, third edition.] "I have long held an opinion," says Sir M. Faraday, "almost amounting to conviction, in common, I believe, with many other lovers of natural knowledge, that the various forms under which the forces of matter are made manifest, have one common origin, or, in other words, are so directly related and mutually dependent, that they are convertible, as it were, and possess equivalents of power in their action." The history of the "Grimstone pea" is an evident and beautiful illustration of a "*transition from species to species.*" [the consequence of the operation of a principle precisely analogous to that which obtains in the "*laws of development*" of the bee, and which, by a mere modification of the embryotic progress, determines the sex, etc.]—the product of seed—immured for nearly 900 years, in an antique vase buried in a mummy pit in Egypt, [and discovered by Sir G. Wilkinson;] and whereby its germination was so extraordinarily protracted,—furnishes, in itself, the strongest possible evidence in favour of the *opinion* of the great philosopher just named, and in contradistinction to the assertion of the German physiologist, Blumenbach.

[*] Roget's Animal and Vegetable Physiology, vol. II., p. 358, 60, 361.

In the very interesting case of acephalous monstrosity published by Mr. Lawrence, in which the brain *only* was wanting, we learn that all the excito-motory functions were duly performed; it gave evidences of pain, and "at first moved very briskly," and the sphincters performed their office. Such, of course, was referrible to the integrity, generally, of the spinal cord. "The child's *breathing* and *temperature* were natural; it discharged *urine* and *fæces*, and took food." The latter set of circumstances indicated the operation of the functions of the solar ganglion and its collateral parts; *and without any aid from a brain.* The ganglionic and spinal nervous systems were natural, and they exercised their respective functions accordingly.

In the remarkable case cited by Dr. M. Hall, of a fœtus born "without either brain or spinal marrow, without a particle of either of these organs *yet perfectly developed*," we have a very satisfactory proof of the independence of the ganglionic functions on either the spinal or cerebral nervous systems. The intra-uterine life may be quite perfect, although there may be neither brain nor spinal marrow; but what happens the moment the child is born? asks Dr. M. Hall; it cannot breathe; it cannot live an instant." It dies truly, but not because the brain or the spinal marrow, or both, are directly essential to the continuance of the function of the solar ganglion; but because that central organ, in the absence of the motor nerves commonly supplied to the respiratory muscles, is deprived of one most material agency or power with which it, the solar ganglion, is enabled to perform one of the many indispensable functions required by the animal economy. The blood cannot, under such circumstances, be decarbonized, and the circulation of diseased blood paralyzes the vital energies of every part of the organism. The effect is the same if a person with his cerebro-spinal and ganglionic systems entire, be made to breathe carbonic acid, or any other irrespirable gas. Life, then, in such a case of monstrosity, cannot be said to cease from the want of any direct *cerebral* or *spinal* influence. The vital actions in the lower classes of animals which have no brain, and in those, too, which have neither brain nor spinal marrow, are not less completely performed than the same in man. Secretion, circulation, digestion, &c., are as elaborately and efficiently executed in the polypus and oyster as in man, and their breathing apparatus is more simple, and independent of any addition to the *organism*, whereby, in man, the nature of his dependence on, and relations to, the external world are explained. His responsibility then came to be understood, and his real position as a moral being to be justly appreciated.

The experiments of Dr M. Hall, as given in his published Lectures, appear to me to be anything than satisfactory. He introduces the subject thus:—"Until very recently, we viewed the contents of the spinal canal as a cord of cerebral nerves, and the origin of a part of the ganglionic system. Now, gentlemen, it is very possible to remove the cerebrum, the centre of the cerebral nerves, and the *ganglionic system*, and yet leave *another kind* of nervous influence remaining in the animal body. I shall take this early opportunity of showing you a simple experiment. You see here an animal (a frog) from which the head has been separated, and of course I need not tell you that with the head the brain has been entirely removed; all the viscera have also been removed, and with the viscera every portion of the ganglionic system. Now I beg here to repeat, the cerebrum, the centre of the spinal cord of nerves, and all the ganglionic, have been removed from this animal, and yet, when I pinch the extremity, it moves so as to be obviously perceptible at the remotest part of this theatre. Thus, as I said before, we have here removed the centre of the cerebral system, and the entire ganglionic system. The brain, which we know to be the centre of all the sentient and voluntary nerves, has been removed, the ganglionic system has been removed, and yet you observe something remains. Now, gentlemen, that which remains I venture to call—in contra-distinction from what has been termed a cord of cerebral nerves, and the origin of the ganglionic system—the *true spinal marrow.* It is plain, in the first place, that it is not a mere cord of nerves; if it were a mere cord of nerves, you might divide it, and then you would intercept its influence. But, if you observe here, this influence passes not only from one extremity to the other, but it also passes from the one set of extremities to the other set of extremities; thus, it is quite plain that there is a nucleus of nervous matter between the two anterior extremities, and another nucleus between the two posterior extremities by which these nervous links are united and associated in their motions one with another. Having thus, then, clearly laid before you the distinction which I wish to insist upon—namely, that there is not a division of the nervous system into two parts only, but into three, pervading all the different parts of the whole animal frame, I shall venture to term them the cerebral, the true spinal, and the ganglionic systems."

That Dr. Marshall Hall is perfectly right in considering that the contents of the spinal canal do *not* constitute a cord of cerebral nerves, and the origin of a part of the ganglionic system, there can be, to my mind, no doubt; but I cannot allow this opportunity to pass by me without claiming for the illustrious Gall the honour of being the *first* to render this anatomical fact clear and distinct. *He* it was who demonstrated that the spinal marrow only *communicates* with the brain.*

Dr. Hall has endeavoured, as it appears in the preceding extract, to prove by experiment on the frog, that on the removal of the viscera with the solar plexus and its ganglia, the spinal cord will still continue the excito-motory functions, the head (and of course, brain) being at the same time dissevered from the body, and which circumstance, of course, would prove, as the doctor affirms it does, "that there is not a division of the nervous system into *two* parts, but into *three*, pervading all the different parts of the animal frame." I have on many occasions performed the experiment on the frog as detailed by Dr. Marshall Hall, but *I* have invariably found that the removal or destruction of the ganglionic system of nerves is fatal to the *life* of the animal. The vital or "*true spinal*" phenomena, in that case, continue no longer than the peculiar contractile irritability of the heart or extremity of the animal after the removal of either from the trunk; proving, therefore, most clearly, that the original power possessed by the spinal cord to perform its peculiar functions is derived from the ganglionic system. If the animal be *not* decapitated, the same result follows the removal or destruction of the solar ganglion, and which could not be the case if the influence of the *brain* were directly required by the spinal marrow. My own experiments, then, prove not only that there are *three* distinct nervous systems united in man—viz., a cerebral, a spinal, and a ganglionic, but also that both the first and the second are dependent on the third—that they derive not only their very existence and integrity from it, but also perform their respective functions in virtue only of the influence they receive from it, and that they are, as it were, employed by it to establish our dependency on, and relationship to, the external world, of which man forms a part.

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* Gall, "Sur les Functions du Cerveau," t. iii. p. 77, quoted by Elliotson in Blumenbach's Physiology. "It is remarkable," observes Dr. Elliotson, "how many discoveries of Gall's that were denied or disregarded have been since made by others, and were frequently contested by two parties, he and his labours been never once thought of." Mr. Solly, in his work "On the Human Brain," claims to have discovered that some of the fibres of the anterior columns of the spinal cord proceed backwards to the cerebellum, but it appears from the authority of Dr. Elliotson, that Gall taught and published the very same fact so long since as 1816, and that these same fibres, "decussate exactly like the anterior pyramids."

The *cerebral* and *spinal* systems of nerves together perform the animal functions, which, in the words of an eminent physiologist, prove us feeling, thinking, and willing beings; they are the actions of the senses, which receive impressions of the brain, which perceives them, reflects upon them, and wills; of the voluntary muscles, which execute the will in regard to motion; and of the nerves, which are the agents of transmission: the brain is their central organ. But the ganglionic system of nerves, with the solar plexus for its central organ, performs the vital or organic functions, or rather, supplies to each viscus the power which enables it to perform its specific functions in the animal economy. Secretion, nutrition, exhalation, and absorption, being, then, under its immediate influence and control, it must preside equally over the brain as the stomach, equally over the spinal cord as the liver. In short, the vital force of the solar ganglion, the centre of the ganglionic system, holds the same relation to the whole organism that *steam* does to the several parts of an engine. The said "*vital force*" and "*steam*" are equally the motive power and it may be said, that to their different states or conditions must be attributed every kind of change, however slight, of which either the animal organism or the machine itself is at any time, and under any circumstances, susceptible.

(To be continued)

ON THE USE OF THE BOFAREIRA ("RICINUS COMMUNIS" OF BOTANISTS) AS A MEANS ADOPTED BY THE NATIVES OF THE CAPE DE VERD ISLANDS TO EXCITE LACTATION.

By J. O. M‘William, M.D., F.R.S., R.N.,

Surgeon to the Honourable the Board of Customs.

Read before the Physiological Subsection of the Section of Natural History, &c., at the recent Meeting of the British Association for the Advancement of Science, held at Edinburgh.

While engaged in an official investigation into the nature and history of a yellow fever epidemy, prevailing in the Island of Boa Vista, in the Cape de Verds, during the year 1846, my attention was called to a remedy commonly had recourse to there, and in the other islands of the group, to accelerate and increase the flow of milk from the breasts of child-bearing women, in cases where that secretion was tardy in appearing, or deficient in quantity when it did appear.

I also learnt that, on occasions of emergency, this remedy could be successfully applied to a still more important use, namely, to produce milk in the breasts of women who are not child-bearing, or who even have not given birth to, or suckled, a child for many years.

The leaves of a plant, called, in the language of the country, Bofareira, but which, in reality, is the "Ricinus communis" of botanists, and, occasionally, the leaves of the "Jatropha curcas," both belonging to the natural family *euphorbiaciæ*, are the means by which these interesting if not extraordinary results are produced.

The Bofareira grows in most, if not in all, the Cape de Verd Islands. That used by the natives for the purposes I have mentioned is called by them the *white* bofareira, to distinguish it from what appears to be nothing more than a variety of the same species, the *red* bofareira. The *white*, or that which possesses galactagogue qualities, is recognised by the natives by the light green colour of the stem of the leaf, whilst the leaf stem of the *red* is of a purplish red hue. The latter plant is carefully avoided, as it is said to be a powerful irritant, and if applied, as it occasionally has been, by mistake for the *white*, it produces an immediate and often immoderate flow of the menses.

In cases of childbirth, when the appearance of the milk is delayed (a circumstance of not unfrequent occurrence in those islands) a decoction is made by boiling well a handful of the *white* Bofareira in six or eight pints of spring water. The breasts are bathed with this decoction for fifteen or twenty minutes. Part of the boiled leaves are then thinly spread over the breasts, and allowed to remain until all moisture has been removed from them by evaporation, and probably, in some measure, by absorption. This operation of fomenting with the decoction and applying the leaves, is repeated at short intervals until the milk flows upon suction by the child, which it usually does in the course of a few hours.

On occasions where milk is required to be produced in the breasts of women who have not given birth to or suckled a child for years, the mode of treatment adopted is as follows:—

Two or three handfuls of the leaves of the Ricinus are taken and treated as before. The decoction is poured, while yet boiling, into a large vessel, over which the woman sits so as to receive the vapour over her thighs and generative organs, cloths being carefully tucked around her so as to prevent the escape of the steam. In this position, she remains for ten or twelve minutes, or until the decoction cooling a little, she is enabled to bathe the parts with it, which she does for fifteen or twenty minutes more. The breasts are then similarly bathed, and gently rubbed with the hands; and the leaves are afterwards applied to them in the manner already described. These several operations are repeated three times during the first day. On the second day, the woman has her breasts bathed, the leaves applied, and the rubbing repeated three or four times. On the third day, the sitting over the steam, the rubbing, and the application of the leaves to, with the fomentation of, the breasts, are again had recourse to. A child is now put to the nipple, and, in the majority of instances, it finds an abundant supply of milk.

In the event of milk not being secreted on the third day, the same treatment is continued for another day, and if then there still be want of success, the case is abandoned, as the person is supposed not to be susceptible to the influence of the Bofareira.

Women with well-developed breasts are most easily affected by the Bofareira. When the breasts are small and shrivelled, the plant then is said to act more upon the uterine system, bringing on the menses, if their period be distant, or causing their immoderate flow if their advent be near.

Exposure to cold is carefully avoided by persons who are being brought under the influence of the Bofareira. They scrupulously abstain from wetting with cold water either the hands or the feet.

Marie, a dark mulatto woman, with woolly hair, thirty years of age, tall, stout, and well-formed; menstruating regularly; the mother of three children, the youngest of whom was three years old, and had been weaned when under the age of one year, was brought before me by Dr. Almeida, of Boa Vista, on the morning of the 30th of June, 1846, for the purpose of being submitted to the action of the Bofareira. She stated, that when her child was weaned, every trace of milk disappeared from her breasts in the course of a few days. I could not detect any sign of pregnancy. The breasts were like those of negro women in general who have borne children, pendulous and flabby. No sign of milk was given out from them upon careful expression of the nipple.

The baths, fomentations, the application of the leaves, friction, suction, &c., were adopted in the manner and order I have already described. On the second day there was a slight oozing of a serous-looking milk from the nipples, with slight increase of size in the areolar portion of the breast. On the third day, the milk was increased in quantity, and less watery. On the morning of the fourth day there was evident enlargement of the lower part of the mamma, and milk flowed abundantly upon the application of a child to the nipple.[*]

The use of the Bofareira in cases of childbirth, to accelerate the flow of milk, is common, but comparatively rare as a means of procuring a wet-nurse. Some instances of the latter kind occurred, in consequence of the death of mothers with children at the breast during the progress of the Boa Vista epidemy of 1845-46, which decimated a population consisting almost wholly of blacks, with a few Europeans—Portuguese and English—and a small proportion of mixed negro and European blood.

Generally, however, this use of the Bofareira is seldom called for. Death in childbirth, or prolonged illness after parturition, sometimes requires a kind relative or charitable neighbour, who, for the safety of the offspring, places herself under the influence of the Bofareira.

The son of a wealthy landed proprietor of San Nicolao, (well known to my friend, Mr. George Miller, of that island,) a remarkably hale and robust-looking man, was wet-nursed by a woman who gave him milk produced by the Bofareira. The nurse in this instance had borne two children in early life. Her husband died shortly after the birth of her second child; she lived in a state of virtuous widowhood, and it was *many* years after the death of her husband that she so generously submitted herself to the Bofareira, and nursed the infant in question.

Consul-General Rendall, of the Cape de Verds, informs me that a lady, a native of Boa Vista, now residing at San Antonio, and the wife of one of the foreign consuls, had a daughter in 1843. "Having very little milk," says Mr. Consul Rendall, "she caused an old female servant to be prepared with the Bofareira, and to act as wet-nurse, which she did in the most satisfactory manner, having plenty of good milk, although she had not had a child for ten years previously. The child is now (March, 1847) a healthy one, and well grown. In short," continues Mr. Rendall, "women who use the Bofareira are in two or three days in order sufficient to nurse the child of a queen."

I have not been able to ascertain, from personal observation, or from any very accurate information, what effect the Bofareira has upon virgins, or upon those who, although they have not borne children, are nevertheless not virgins. As regards the latter class, however, an intelligent native midwife assured my most able and observant friend, Mr. George Miller, of San Nicolao, that the effect of the administration of the Bofareira is much the same upon them as upon child-bearing women.

In some cases, but rarely, the decoction of the Bofareira is taken internally, with the view of assisting the action of its external application.

I regret not having been informed of the alleged difference in the action of the white and red Bofareiras, while I was at the Cape de Verds, that I might have examined the latter plant upon the spot.

The seeds of each plant were, however, kindly forwarded to me by Mr. George Miller, and Sir William Hooker most readily and obligingly examined them. Sir William, in a note to me, says, "What you mark as red Bofareira, and as white Bofareira, are both, not only of the genus 'Ricinus,' but also of one and the same species—viz., Ricinus communis, the common palma Christi, or castor-oil plant. In our gardens, as well as abroad, the plants vary, and your two plants vary a little in the form and size of the seed, and especially in the colour, but they are one and the same species."

It is thus evident that the white and red Bofareiras, if they differ at all, can only be varieties of the same species. It is known, however, that certain varieties of other plants, as thyme, mint, &c., do yield different properties, and such may be the case with the Bofareiras.

I have thus stated all the facts that have come to my knowledge regarding this gallactagogue of the Cape de Verds, which I consider to be well worthy of a fair trial in this country. Should its action in our more temperate regions be similar to that which it exerts within the tropics, an interesting field of inquiry will be opened, as regards its hygienic, medicinal, medico-legal, and other relations.

These, however, are points, the consideration of which had better be reserved until it has been determined, by experiment, how far the Bofareira can be successfully introduced into the practice of this country.

[*Note.*—Dr. Tyler Smith, to whom I showed my paper before my visit to Edinburgh, has written to inform me that he has in several cases tried the Bofareira in the manner described by me; and he assures me that the effects of the plant grown in this country fully bear out the facts I have detailed respecting the use of this plant in the Cape de Verd Islands.]

ON A CASE OF

PREDISPOSITION TO CEREBRAL DISTURBANCE ACTIVELY MANIFESTED AFTER THE EXTRACTION OF STUMPS OF TEETH.

MARKED BENEFITS FROM ALCOHOLIC STIMULATION.

By J. L. Levison, Esq., Brighton.

Mr. ——, a gentleman of respectability, and of a mixed temperament, (the lymphatic preponderating,) came to have some stumps extracted from the upper jaw. They were removed with comparative ease; he bled for a few minutes; and, having expressed himself highly gratified that he had endured such little pain, when he had anticipated the contrary, left my residence, with a countenance indicative of great satisfaction. On his return home, however, he commenced feeling his mouth, because he felt the edges of the alveolar processes, which, in his terror, he mistook for stumps that had not been removed. So he procured from a watchmaker a pair of pliers, and pulled and shook the supposed offenders, until he broke off a considerable portion of the socket: on examining which, he soon discovered, that, instead of the fangs of teeth, it was simply a rough piece of bone! His alarm was great, and very soon he called on me, highly excited, and in a state of extreme agitation. He said—"What is this, Mr Levison?" "Why, sir, it is a portion of the socket." "What, a piece of the jaw-bone?" "Yes, sir, a portion of the edges of that bone, which form the outer and inner surfaces of the sockets, containing the fangs of the teeth." He then took the piece from me, saying, in a voice tremulous with terror, "What is this?" (pointing to the transverse portion, which formed the septum.) I gave him a brief answer, explaining to him the structure of the alveolar processes, without making anything particular of the circumstance, so as to lead him to infer anything like danger from the accident. But he told me, that, whatever might be the consequence, he had, in his ignorance, done the silly act himself; and he then detailed the operation he had performed with the pliers. There was so much wildness in his manner that I tried to soothe him: assured him in a jocular tone that the penalty he would pay for being his own dentist would be, that the gums would not heal so soon,—that they would remain sore and tender, arising from the continued irritation induced by the rough edges of the alveolar processes; and so forth. He seemed pacified, but left me with a dull, anxious look. I was soon called on to see him, and, when entering his room, I perceived an extraordidary metamorphosis. His whole appearance had changed. He sat in an arm-chair, looking vacant and terror-stricken. When spoken to he did not answer, unless a moaning sound every now and then could be regarded as a reply. I asked him if anything had happened since he last saw me? had he bled much? was he in pain? He started me for a moment with his groans and suppressed sobs. But I repeated my questions, and these roused him; but instead of answering, he asked, whether in mortification there was pain? I said sometimes, and which may continue until the affected part had lost all vitality. To my astonishment, what seemed to be likely to inspire him with confidence, aggravated his symptoms. He groaned in a most distressing manner, and his features assumed an almost idiotic expression, particularly when he exclaimed "My mouth is mortifying! My mouth is mortifying! I shall die! I shall die!" These exclamations were followed with the most piteous groans.

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[*] Dr. William Brown, surgeon R.N., obtained the very same results from experiments on two women while he was surgeon of H.M.S. *Madagascar*, at the Island of Boa Vista, during the year 1844.

His pulse was low and feeble; his mouth hot; his skin moist, pale, and cold, like that of a person in partial syncope. I rang the bell for the servant, and gave him some hot brandy-and-water, which induced a better circulation, imparted warmth to his body, and rendered his expression more natural. Still he harped on the one string, that he was sure the gums were mortifying. Finding that reasoning with him was altogether useless, I tried the effect of ridicule, declaring "that large pieces of dead gums were dropping off—that there would soon be enough for his dog's dinner." This roused him; he could not bear the bantering. He became irritated, and would have abused me, but I gave him some more grog, and as he was usually a very temperate man, it had the effect I anticipated—he became inebriated, and very sleepy. I had him put to bed. He slept very soundly, and woke up refreshed, and in his usual condition, wondering how he could have been such a fool, to have frightened himself, giving me so much trouble, and his friends so much annoyance. Some time afterwards, when he had suffered some mental excitement, occasioned by a bereavement of one of his family, he became quite demented, and continued so for a very long period, hence proving that hereditary predisposition could be developed under circumstances that would produce no alarming disturbance of the mental functions where there existed a healthy brain.

This case is also instructive, as showing, that in many instances, when there exists an hypochondriacal tendency, that stimulation (particularly where there exists temperate habits) would often save us, as in this case, the development of active cerebral disease.

ON THE

INFLUENCE OF LARGE DOSES OF QUININE IN NEURALGIA.

By **Charles Hogg**, Esq., M.R.C.S., &c., Finsbury.

It is just possible that some of your numerous readers may not be aware of the influence of large doses of quinine in neuralgia. If you think the following worthy of a corner in your valuable periodical, it is at your service.

A case of neuralgia, of a very aggravated character, occurred in my own family in the present year, and which yielded, in a most marked manner, to large doses of quinine. My experience leads me to conclude, that in doses of ten grains and upwards, this valuable medicine acts as sedative to the vascular, but highly excitant to the nervous system, as will be seen in the progress of the case. I may here add, that in numerous cases of ague I have found large doses of quinine arrest the progress of that distressing disease. My plan has generally been, to clear out the alimentary canal, by giving two or three grains of calomel, five to eight of compound extract of colocynth, followed by a saline draught; and during the interval of the cold stage, to give the following draught every six hours:—Sulphate of quinine, ten grains; dilute sulphuric acid, ten minims; distilled water, one ounce: mix. I have seldom had occasion to give more than two doses.

Neuralgia.—My patient is twenty-five years of age, and had been for some time back complaining of debility, owing in my opinion, to her suckling and want of rest. She caught a severe cold about Christmas last, which terminated in a violent attack of toothache, resisting every measure I could think of. A few hours' remission followed the extraction of the dens sapientia and free scarification of the gums. The pain now assumed a different character, and was marked by a violent, stabbing, plunging pain, beginning at the left angle of the under jaw, running along the ramus, and upwards in the course of the facial nerve; at other times the pain would be fixed behind the ear, again in the temple, &c., and increased (and even brought on) by the slightest touch of the skin or current of air. An attack would sometimes come on like an electric shock, preceded occasionally by a peculiar twitching of the muscles of the affected side of the face. The loss of sleep and the violence of the pain had disordered the secretions generally. The digestive functions were restored by a pill, composed of two grains of blue-pill, and five of compound extract of colocynth; and a draught, composed of extract of taraxacum, sulphate of magnesia, and tincture of ginger, continued for a few days. I endeavoured to procure sleep by Dover's powder, acetate of morphia, hyoscyamus, &c., but without success. A slight mitigation of the symptoms were produced by a draught, ordered by my friend Mr. Gay, composed of sulphate of iron, two grains; muriate of morphia, one-sixth of a grain; extract of Canabis Indica, one-twelfth of a grain; it could not be continued, as it seemed to disagree with the child. I had before this prescribed carbonate, sulphate, and citrate of iron, but without avail. I then determined to try the quinine in large doses. She took a draught as follows:—Quinine, ten grains; dilute sulphuric acid, ten minims; distilled water, one ounce. This was followed by distinct remission of the pain, but left a high degree of erethism, a distressing irritability of the acoustic and optic nerve of the affected side, with slight vertigo. Before proceeding further, I obtained the sanction of my friend Dr. Elliotson, who advised the medicine to be continued every sixth hour,—the first dose, ten grains; the next, twelve; and the third, fifteen. After the third dose—that is, the twelve grains, as she had taken two of ten grains—she was completely deaf, particularly on the left side, but had no return of the pain. Generous diet completed the cure. During the last month there has been a slight tendency to a return, which, however, has invariably yielded to two draughts of five grains each. No argument would induce my patient to give up nursing.

ON A

DEATH FROM HEART-DISEASE OCCURRING IN A SWIMMING-BATH.

By **Wm. James Jones**, Esq., M.R.C.S., London.

Having for many years taken great interest in the art of swimming, and having also, as chairman of a long-established swimming club, had great opportunities of observing the effects produced upon the system by the healthful habit of tepid bathing, I am induced to forward you the results of an autopsy on the body of a gentleman, who, without apparent previous illness, died suddenly whilst bathing in the Holborn baths. I consider that by so doing I shall remove, in some measure, the prejudice connected with this most useful and necessary art, and at the same time offer an explanation of the very many sudden deaths occurring to able swimmers in the water, wherein the loss of life has been erroneously attributed to cramp, exhaustion, &c., when, in reality, sudden death would have occurred, and does occur, under other circumstances, where any great muscular exertion is used by patients labouring under organic disease of the heart, lungs, or brain, more particularly of the heart.

On the 28th of last August I was hastily summoned to the Holborn baths, the messenger informing me that a gentleman was drowned there. On reaching the patient, I found a young man, about twenty years of age, in a warm bath, and whilst endeavouring to glean some particulars of the accident, I made use of the usual method adopted for the resuscitation of the drowned. These means were put in force for half an hour, during which period I felt convinced, from the testimony of the by-standers, that the sufferer could not have been submerged more than half a minute. That such an accident should occur to an able swimmer I thought improbable, and conceiving that death was produced from asphyxia, from cerebral congestion, through partial intoxication, or a full stomach, I opened the jugular vein, from which flowed a small quantity of black blood. All subsequent attempts to restore by artificial respiration, friction, &c., proving fruitless, the deceased was, on the following day, examined by me, under an order from Mr. H. M. Wakley, the deputy-coroner for Middlesex.

I may observe that the deceased plunged into the water from a height of four feet, that he dived about twelve yards, that he subsequently swam twenty, and then was seen to sink like a stone to the bottom of the bath.

Autopsy.—The body externally presented nothing peculiar; was tolerably fat, well-formed, with the neck somewhat shorter than usual. There was a band of tape round the left leg, which was said to have been applied by the deceased in consequence of a varicose vein having bled some time previously. There was cataract of the right eye, which I subsequently learned was congenital. The pupil of the left eye not much dilated, and the face of a purplish colour. On opening the chest and abdomen, I was struck by the unusually distended state of the stomach with flatus, which pressed with great force against the diaphragm, and must materially have prevented its descent in inspiration. It at the same time contained a large quantity of half-digested food, and *no water;* it was healthy. The lungs were healthy, and not at all congested; that of the left side was attached to the costal pleura by very many strong adhesions; they contained no water, and the trachea, bronchi, and air-cells held but very little frothy mucus. The pericardium was so firmly attached to the heart by a succession of adhesions as to present what the older pathologists considered a congenital absence of this bag, the pericardial cavity being completely obliterated; and the membrane itself so adherent as to be removed with difficulty without a scalpel. The heart was tightly bound down by this covering, both its cavities being full of black unoxygenated blood in a liquid state; the right auricle was greatly dilated, so as to represent a perfect aneurism of that organ. The brain was healthy, and did not present any congested condition, except in the meningeal veins; there was some fluid in the lateral ventricles, but not much.

With these appearances there could be no question as to the cause of death, (in the absence of the usual signs of suffocation;) and the case is remarkable, inasmuch as it shows the possibility of the existence of very extensive lesions, both of the heart and its coverings, without the suspicion of any disease at all existing in the minds either of patient or friends during life. Such an attachment of the pericardium to the heart could be but the result of frequent attacks of pericarditis, and it would appear, from the testimony of deceased's father, that his son had on one occasion only complained of slight pain in the chest, which did not prevent him from following his usual avocation, and that, in fact, he never had a day's illness in his life. I may observe that his father had been educated for the medical profession, and was a very intelligent, well-informed man.

A gentleman who saw him before he bathed, and who was both a barrister and surgeon, noticed the peculiar colour of his face, which he compared to that of blotting-paper.

The beautiful attempt of Nature to make up for the restricted condition of the heart, by a dilatation of the right auricle, may, perhaps, explain the slight inconvenience felt from so extraordinary a state of its bag; and in a medico-legal point of view, various interesting questions might be suggested under such peculiar circumstances.

APPLICATION OF COLD AS AN ANÆSTHETIC AGENT IN OPERATIONS FOR REMOVING WARTY EXCRESCENCES.

By Thomas W. Nunn,

Surgeon to the Western Dispensary, etc.

Dr. James Arnott has suggested the employment of cold as an agent in destroying the sensibility of parts during operations, but the almost universal adoption of chloroform has prevented, as far as I know, any attempt at following out this method by the London surgeons.

There is a certain class of cases requiring an operation, which, although of the simplest nature, is nevertheless attended with apparently the most exquisite conceivable torture. I allude to the cases where warty excrescences on the genitals of either male or female have reached a size which renders their removal not only desirable, but absolutely necessary.

There are two objections to the employment of the vapour of chloroform in such instances. The first is, the slight nature of the operation; the second, the unseemly results which are liable to follow interference with the pudic nerve coincident with administration of chloroform. Moreover, chloroform cannot, or rather should not, be administered without the assistance of an experienced hand, and the presence of some two or three persons to hold the patient in case of need. All this may be exceedingly undesirable under the circumstances.

Taking these points into consideration, the employment of cold for the purpose of producing local anæsthesia seems especially indicated.

I have lately taken advantage of the hint given by Dr. Arnott, and have been so satisfied with the result, that I think I am only paying what is properly due to that gentleman in thus publishing the following case:—

A young married woman applied at the Western Dispensary for the purpose of being relieved of a large accumulation of warty growths about the pudenda. She had been an out-patient at one or two hospitals, she informed me, without an operation being proposed to her.

The excrescences depended from the whole of the labia minora, and surrounded the clitoris so completely, that it was difficult to distinguish the meatus urinarius. Some of them were of considerable size—as large as a common fig—others were oblong, and were attached by a narrow pedicle. A great many small ones surrounded the orifice of the vagina. She also suffered from leucorrhœal discharge. No other symptom of importance appeared. The excrescences were the cause of a great deal of suffering and inconvenience, in a variety of ways.

Assisted by my friend Mr. Weston, I applied little wedge-shaped pieces of ice to the necks of the larger growths, till they became perfectly *blanched* and cold, and with a single stroke of a curved probe-pointed bistoury, removed several of the larger ones successively, without causing the patient any but slight pain.

I afterwards removed a very small growth without first applying ice. The result was as might have been anticipated, the patient found the pain insupportable.

I found it necessary to introduce a bougie into the urethra, in order to indicate the position of the external orifice of that canal, so buried was it amongst the vegetations.

A great advantage obtained by the use of the ice, was the absence of hæmorrhage; it being hardly requisite to apply a sponge during the operation. I was thereby enabled to proceed without hindrance, and a clear view was obtained of the exact extent of each sweep of the bistoury.

No reaction in the least degree excessive followed the proceeding, the progress of the case being satisfactory.

It appears to me, that by the above simple plan we may often save our patients considerable suffering, without exposing them to the least extra risk, which cannot be said of chloroform. It has been proved, on the one hand, over and over again, that if anæsthesia be not COMPLETE, there is the contingency of undesirable phenomena; while on the other hand, if the anæsthesia be perfect, a greater chance of accident is incurred.

ON A NEW EAR SPECULUM.

By JOSEPH TOYNBEE, Esq., F.R.S., &c.

As it appears, from late communications, that medical men are not aware of the improvements recently made in the construction of the speculum for the examination of the ear, and finding that they often provide themselves with instruments which, although expensive, are but ill adapted for the purpose they are intended to fulfil, I may perhaps be permitted to make some general observations on the subject.

The objects of the speculum for the ear may be stated to be threefold:—

1. To render the meatus externus as straight as is practicable.

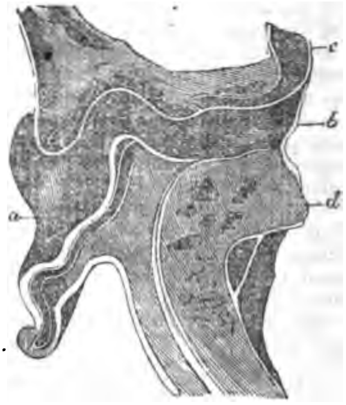
2. Slightly to dilate its outer membraneous and cartilaginous portion, so as—

4. To allow as much light as possible to pass to the membrana tympani.

An examination of the accompanying figure, taken from Soemmerring, will show the desirability of carrying out the two first-named objects, for, in the first place, the curved form of the tube is manifest, and, in the second, it will be noted that its outer portion is smaller than the inner. In order to render the meatus straight, it will be seen that it is requisite to press the cartilage backwards which forms the posterior part of the orifice.

Some writers have supposed that it is not desirable to use any instrument wherewith to dilate the orifice of the meatus. In many cases, this orifice is so very small, that it is important to distend it as wide as possible, without the production of pain, in order to allow the passage of a sufficient volume of the rays of light to permit the inspection of its surface and that of the membrana tympani. The orifice and outer portion of the meatus being always smaller than the internal part, the object of the medical man is to widen the outer part; and, as is observed in the figure from Soemmerring, the orifice and outer part being composed of cartilage and membrane, they are capable of being slightly distended, and the distension is best effected by the introduction of a tube, shaped like the meatus, and of a size entirely to occupy it when dilated. I will now describe the instruments that have been constructed to fulfil the objects above noticed, and I will afterwards point out the best means of accomplishing these objects.

FIG. 1.



AN HORIZONTAL SECTION OF THE MEATUS EXTERNUS.

a, A section of the outer ear; *b*, the membrana tympani; *c*, anterior part of the osseous auditory tube; *d*, posterior part of the osseous auditory tube.

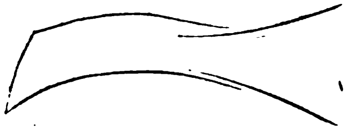
The two kinds of instruments in general use may be styled the forceps and the tubular specula.

The *forceps speculum* consists of two handles, or branches crossing each other; each of these branches is attached at one extremity to half a tube, and when the other ends are pressed together, the two portions of the tube separate.

The objections to the forceps-speculum, and indeed to all modifications of it, consist in their being cumbrous, extensive and not efficient. Thus they are too heavy to remain in the external meatus without being held; on account of their weight and size, they cannot be used with delicacy, and a sensitive meatus is liable to be pained; they require the exclusive use of one hand, so that they cannot be well employed during the performance of an operation or the use of applications to the meatus or membrana tympani. As the size of the meatus varies much in different persons, it is requisite to have several sizes of this instrument, and its use is therefore attended by considerable expense; another great objection to the forceps-speculum is, that when the two portions of the tube are separated in the meatus, two spaces are left between them through which hairs, or portions of epidermis and cerumen, often project, and obstruct the passage of light.

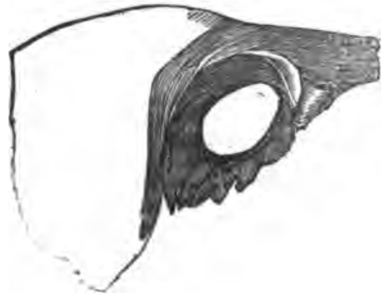
The *tubular-speculum* for the ear is stated by Mr. Wilde to have been first used by Dr. Gruber, of Vienna; Mr. Wilde, in his valuable contribution on Otorrhœa to the *Dublin Journal of Medical Science*, in 1844, describes it as consisting of "a small conical tube of silver, measuring about an inch and a half long, five-eighths of an inch wide at the greater aperture, and varying from two to four lines in the clear at the small extremity." The interior and exterior of each extremity is polished; both openings are rounded. Any surgeon who will take the trouble to compare the speculum thus described with the shape of the tube it is intended to explore, will at once perceive that it has two grave defects. The first of these defects consists in the coniform shape of the small extremity of the tube. It will be seen, upon reference to the accompanying diagram, that the widest part of the speculum is introduced into the narrowest part of the tube, and that its extremity projects into and obstructs that portion of the meatus which it is desirable should be free. With a speculum of this shape, it is very difficult to explore the whole of the meatus and the membrana tympani, and it is not sufficiently embraced by the meatus to retain its position without being held. These disadvantages of the conical speculum were observed by Mr. Avery, who suggested that the narrowest portion, for about three quarters of an inch in length, should be of the same diameter thoughout; this improvement has been adapted in the instruments made by Messrs. Weiss for a considerable period, and in it consists the supposed novelty of Mr. Forster.

FIG. 2.



The second defect of the tubular ear-speculum depends upon the rounded shape of its small extremity. Upon an inspection of the orifice and outer half of the external auditory meatus, it will be observed that they are of an oval shape, the longest diameter being from above obliquely downwards and backwards. This is seen upon reference to the accompanying figure :—

FIG. 3.

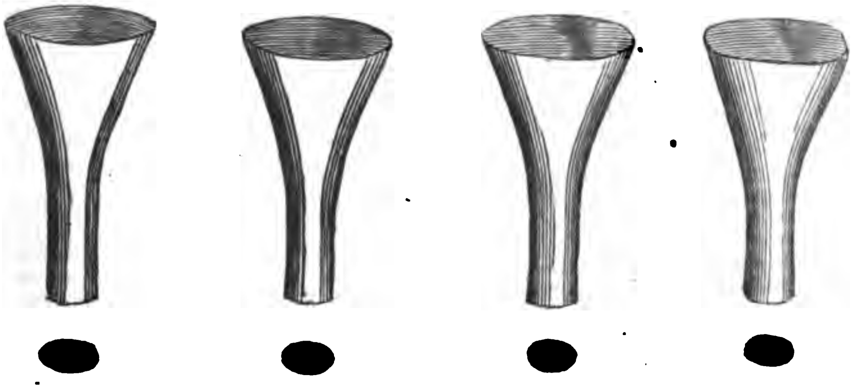


THE EXTERNAL AUDITORY MEATUS SLIGHTLY MAGNIFIED.

It will be immediately apparent that when a circular tube is introduced into this oval-shaped meatus, it may press against its anterior and posterior walls, while a considerable space above or below remains unoccupied by it. As a rule, it is impossible by means of an instrument thus shaped, to obtain a view of more than a small portion of the meatus or of the membrana tympani at a time; and in cases where the meatus is very small, the circular tube does not give passage to a sufficient quantity of luminous rays to enable the surface of the membrana tympani to be discerned. Another disadvantage of the circular speculum is, that the pressure of its convex surface against the anterior and posterior walls of the meatus, which are nearly flat, often produces pain.

To remedy this second defect of the tubular ear-speculum, I have suggested that its smaller extremity for the length of three-quarters of an inch should be made of an oval shape, so that its form may as nearly as possible agree with that of the external meatus. Ear-specula of this shape are made by Messrs. Weiss, and on account of the great variety in the size of the external meatus, each set of instruments consists of four sizes, as seen in the figure:—

FIG. 4.



In the introduction of this speculum, the surgeon should bear in mind that the largest diameter of the meatus is obliquely from above downwards and backwards, and in this direction the ear-speculum must be inserted.

With the modifications of the tubular speculum for the ear, above described, I feel that nothing remains to be desired. It has lately been suggested that they should be made of glass, silvered; the objection to this modification arises from the thickness of the material which is found to occupy the space that ought to be left free. For the application of nitrate of silver or other substances to the meatus which decompose silver, I am in the habit of using glass tubes, one extremity of which being passed down to the polypus or part to be treated, the parietes of the meatus are guarded from injury.

REDUCTION OF A DISLOCATION OF THE THUMB.

By J. PEYTON PICK, Esq., M.R.C.S.E., Braunton, Devon.

I was summoned, this morning, to visit Mrs. Williams, thirty-seven years of age, who, whilst standing at the top of the stairs, fainted, and fell down to the bottom, where she remained in a state of insensibility for some time. I found, amongst other injuries, that she had sustained a dislocation of the first phalanx of the right thumb, upon the back of the metacarpal bone. Having seated herself on a chair, I placed myself behind it, flexed the forearm upon the upper, the wrist upon the forearm, and the thumb upon the palm of the hand; I then took a clove hitch, with a broad piece of tape, and made extension, whilst the arm was held firmly by an assistant. The bone was thus quickly and easily reduced.

PRACTICAL ILLUSTRATIONS OF THE REMEDIAL EFFICACY OF A VERY LOW OR ANÆSTHETIC TEMPERATURE.—I. IN CANCER.

By James Arnott, M.D.,
Physician to the Brighton Dispensary.

Having already given an account of the antiphlogistic and anodyne properties of a very low or benumbing temperature in the treatment of erysipelas, headache, and other cutaneous and neuralgic affections, as well as of its utility as an anæsthetic, in many surgical operations, in lieu of the inhalation of ether or chloroform,[*] I proceed, on the present occasion, to lay before the profession some details respecting other important applications of the same valuable therapeutical agent. I shall show, in the first place, by a report of a case of cancer treated by an anæsthetic temperature or congelation, that it furnishes us with a perfect means of relieving the pain of that dreadful disease, without producing the stupefaction and disturbance of the system that attends the use of narcotics; and that, instead of precipitating the unfortunate patient's fate, like these, congelation, by arresting the accompanying inflammation, and perhaps destroying the vitality of the "cancer cell," is not only calculated to prolong life for a great period, but may, not improbably, in the early stage of the disease, exert a curative action.

If it be objected that the case to be reported is insufficient evidence of this property of congelation, I would reply, that the unequivocal, immediate, and long-enduring relief from suffering which it shows to have been effected by each of numerous applications, during a period of eight months, together with the restoration of the patient's general health, in consequence of the arrest of the local disease, leave no doubt on this point, and render a single case hardly less satisfactory than a multitude would be. Nay, one such application of the remedy as has been recently made in the Middlesex Hospital, by which long-continued and severe pain was immediately and completely relieved, for a period of fourteen days, (which period had elapsed without any recurrence of pain when I last saw the patient,) would almost be sufficient evidence; corroborated, as such a fact is, by the equally striking effects of the same remedy in other painful diseases.

As the subject will, probably, be entirely new to many readers of this paper, it may be proper to give a brief account of the agent whose effects in cancer it is its purpose to describe. The very low or anæsthetic temperature that is used remedially as a local application to inflamed or painful parts, is produced by what are termed frigorific mixtures, or combinations of pounded ice and various salts, which, in dissolving, reduce the temperature below the degree of zero of Fahrenheit's thermometer, or more than thirty degrees lower than any temperature hitherto employed in medicine. The application of such a mixture to the skin, or mucous membrane, causes little sensation of any kind, as the part soon becomes benumbed, and the slight tingling or smarting produced (which is seldom so great as to be complained of by the patient,) is more allied to the sensation of heat than of cold. If the frigorific differs from cold water or ice in the sensations it produces, it differs from them still more in its physiological and remedial effects. There is in fact, no greater resemblance between the effects of different low degrees than there is between different high degrees of temperature;—as, for example, between the soothing heat of fomentations, and the scalding heat that is occasionally resorted to as a powerful stimulant, or the still higher degree which, when communicated by an iron, is often used as an escharotic.

In investigating the pretensions of a new remedy, we require evidence, not only of its power of palliation or cure, but of its general safety. Large and repeated doses of opium or morphia, or copious bleedings unquestionably alleviate the pain from cancer, but it is well known from their effects in this, as well as in other diseases, that they as certainly prove injurious to the patient's constitution, or shorten his life. Now, there is no deficiency of evidence respecting the safety of the remedy which I have to propose as their substitute. Congelation has already been employed, thousands of times, in other inflammatory and painful diseases, without the slightest injury on any one occasion. The prejudice against this remedy on account of its having hitherto been only known in its uncontrolled agency, or as a cause of disease, was not extraordinary, as a similar prejudice has existed against many other powerful agents, which, before they were employed medicinally, had only been known as noxious to the animal economy. Dr. Paris[*] adverts, in severe terms, to this prejudice in his account of the opposition from it to the medicinal use of prussic acid, saying that it would be just as reasonable to object to the use of the knife in surgery because when uncontrolled and unguided by the head and hand of the operator, it is capable of doing deadly injury. To condemn medical congelation because the vitality of exposed parts of the body has been lost by long exposure to severe cold, would be as absurd as to condemn medical electricity because persons have been killed by lightning. Nor is another theoretical objection better founded, that reaction must be the consequence of minor degrees of congelation. Instead of reaction following remedial congelation, there is the very opposite condition, insomuch that parts cut in operations after anæsthesia and congelation have been produced by a low temperature, have invariably healed more quickly than under ordinary circumstances. The vessels of the part appear to be rendered incapable, for a long period, of assuming such a degree of morbid excitement as would materially interfere with the healing process.

I cannot perhaps, more forcibly illustrate the safety with which congelation may be used in medicine, than by stating that, very lately, two young ladies, resident in London, were, after having been for some time under my care, themselves employing it—one, every other day, for suppressing the nascent pustules of an acnoid eruption on the face; the other, to remove a nævus from the same locality. Were there any danger of the skin receiving the slightest blemish from regulated congelation, I should not thus have left its application to so conspicuous a part in their own hands.

But after the removal of the prejudices and misunderstandings just adverted to, another question is sure to occur to the practitioner: granting the utility and safety of this new antiphlogistic and anodyne remedy, what advantage does it possess over the numerous expedients for the removal of inflammation and pain which we already possess, that will compensate for the trouble of applying it, and of learning to apply it properly?

In the first place, it will cure diseases and relieve pains that cannot be cured or relieved by any other known means; and where the same effect may be produced by other means, it is not produced so rapidly. Both as an antiphlogistic and as an anodyne, congelation is much more powerful as respects many diseases than any agent, or combination of agents, possessing similar qualities hitherto employed in their treatment, and which, on that account, have often proved ineffectual. A very low temperature will arrest every inflammation which is near enough to the surface to be accessible to its influence, and totally and permanently remove irritation from the nerves which it can reach.

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[*] See the Lancet for 1849-50.

[*] See his Pharmacologia, eighth edition, article "Hydrocyanic Acid."

In the second place, congelation is a safer remedy than most of those which are usually employed for the same purpose. Bleeding often impairs or prostrates the reparative powers; both antimony and mercury occasionally act as poisons; opium stupifies and excites; and events have shown that, as anæsthetics in surgical operations, ether and chloroform are not altogether without danger. Not once, in upwards of two thousand applications which have now been made of it, has congelation caused the least injury.

Other advantages of congelation might be mentioned, but these of its greater certainty, promptitude and safety, must suffice. Cases are every day happening where life is endangered or lost by inflammation that cannot be subdued by bleeding or the ordinary measures without incurring greater hazard from the debility which they occasion, or other injurious effects; and cases of suffering, to which, from some constitutional peculiarity, the ordinary anodynes are inapplicable. That a great desideratum existed here, was strongly evinced by the recent deplorable case of a much lamented statesman, who died from injuries causing inflammation and intense pain. The medical art has never appeared to greater disadvantage than on that melancholy occasion. The inefficient measures resorted to, only showed the indications which the medical attendants were anxious to fulfil, but which, it would seem, they were unwilling to attempt fulfilling by the means in common use. What appeared to be wanting were, an antiphlogistic remedy that would not debilitate, and an anodyne that would not excite.[*]

"The most dreadful disease to which the human frame is liable, is carcinoma; and, perhaps, of all organs affected by it, uterine cancer is the most painful. This is indeed a horrible disease; the patient's sufferings are aggravated by the knowledge that her complaint is incurable, and she languishes under the double torment of excruciating agony and despair. In the treatment of no disease is the medical man's duty so distressing as that of cancer—to witness the increasing sufferings of his patient day after day—to hear at each succeeding visit the same unvarying statement of pain and misery, while he knows too well how poor and inadequate are the resources of his art—while he is sensible that his utmost power will not avail him beyond blunting, by stupefying remedies, the acuteness of bodily anguish, even if he attains that fortunate and desirable advantage—is a task that calls forth the tenderest sympathy which his nature is capable of experiencing."

This graphic description (from Dr. Ramsbotham's lectures on Midwifery,) of the sufferings from cancer of the womb, will, as being very applicable to the case about to be reported, supply the place of a minute detail of symptoms. Only the more essential points will be noticed.

M. R.—— was admitted a patient at the Brighton Dispensary, on the 25th July, 1849. She is of short stature, thin, of sallow complexion, and about forty-two years of age. She had been lately in St. Thomas's Hospital on account of the same disease for which she now sought assistance; and had complained about eighteen months previously to her entering the hospital.

Her principal symptoms were frequent and severe paroxysms of pain, chiefly in the back and hips; a profuse and most offensive discharge, and occasional hæmorrhage from the vagina; and derangement of the digestive organs. On examination, the neck of the womb was found hard and ulcerated.

For six months the usual palliative treatment was pursued—viz., the exhibition of the preparations of opium and the application of leeches. She complained that the opium made her constantly drowsy and unfit for her occupation as a needlewoman: and the pain was, notwithstanding its use, occasionally so severe as to oblige her to rise from bed and roll on the floor of her room.

In January, I determined upon a trial of congelation, having previously made another careful examination of the uterus. The disease had by this time considerably extended; the neck of the womb was now completely destroyed, and there were several warty excrescences in the upper part of the vagina. Congelation was effected by means of a frigorific mixture of two parts of finely-pounded ice and one part of chloride of sodium, introduced through a wide speculum of gutta percha, having the lower part of its upper opening of a cup-like form; and in order that the temperature might be maintained at the requisite low degree, or below zero of Fahrenheit, the dissolved ice was continuously drawn off by a syphon of peculiar construction. This peculiarity principally consists in a large two-necked bottle being connected with, or constituting part of, the long arm of the syphon; and the purpose of it is, that a stream of water may continue to flow along this part of the syphon, and keep up the suction of its upper extremity, notwithstanding any interruption in the supply. A tube of vulcanized india-rubber forms the remaining part of the syphon, with a small glass tube where it enters the speculum, in order that the rising column of liquid may be seen and regulated by a stop-cock.

The success of this application exceeded my expectation. So soon as I had learned to apply the frigorific properly, I was able to give immediate and entire relief, and this has generally continued complete for about a week. The discharge was soon diminished, and became much less offensive, and the tendency to hæmorrhage ceased. From twenty to thirty applications of the frigorific have now been made, and scarcely any other remedy has been used. No advance of the disease appears, on examination, to have taken place, and in other respects there is decided improvement. The patient is not so thin; her appetite is tolerably good; she is stronger, and able to occupy herself in the usual household affairs.

She is directed to call whenever the pain returns. The speculum is generally introduced by herself while in the supine position, and she covers her extremities with a sheet before I enter the apartment. The nates are raised, in order that the speculum may be sufficiently upright to contain enough of the frigorific, which has usually been kept applied for a period varying from a quarter to half an hour. There is a slight sensation of smarting produced for a minute or two, and the pain from the disease has generally ceased within the first five minutes. If the womb be now inspected by removing the frigorific from the speculum, the greater part of its visible surface will be found perfectly white and hard. The application is terminated by allowing about a quart of cold water to run rapidly through the speculum and syphon for the purpose of gradually restoring the natural temperature, and washing away any remaining salt.

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[*] Another expedient which I lately introduced into the practice of medicine, under the name of the "current apparatus," was had recourse to in the case alluded to—an expedient intended to regulate the temperature of morbid parts with precision, while it affords, at the same time, a means of equalising the pressure upon them. From the strange name of "hydraulic bed," which was given to it in the reports of the case, I presume that the latter purpose was that principally had in view, although the other, if properly carried out, was calculated to be of eminent auxiliary service. I notice the subject principally on account of the circumstance, that one of the persons whom I requested, three years ago, to exhibit the apparatus in his shop, is now constantly advertising it, in terms calculated to impress the idea that this merely incidental quality of equal pressure or softness is its principal value, and without explaining how even this advantage can be attained.

(To be Continued)

CASE OF VIOLENT CRAMPS AND CONSTIPATION, IN WHICH STRYCHNIA WAS SUCCESSFULLY ADMINISTERED.

By W. Fort Vidal, Esq., M.R.C.S., Aveley, Essex.
Late House-Surgeon to the London Hospital.

A single lady, aged thirty, of an exsanguine emaciated appearance, who has for fourteen years been subject to fits, ("a complication of hysteria and epilepsy, for the last four years, terminating in catalepsy,") had a severe attack, on the 29th of August, and remained in the cataleptic state for five days, during which time the bowels were not relieved, although repeated enemata were administered, as nothing could be taken by the mouth. The urine not being passed, was drawn off. Consciousness returned on Sept. the 4th, when she complained of great pain in the head, burning pain in the spinal column, more particularly in the region of the lower dorsal vertebræ: at the same time severe cramps in the legs, ("which were drawn up, and unable to be moved,") chest, and abdomen; but no tenderness on pressure; skin cool; pulse 90, and weak; tongue covered with a thick white coating; anxiety of countenance, dyspnœa, and dysphagia. Ordered a warm bath, a cataplasm of mustard to the chest and addomen, an anti-spasmodic mixture, and purgative pills of calomel and compound extract of colocynth, and an enema.

Sept. 5th.—No relief, as the symptoms were as severe; no dejection from the bowels. Ordered a blister to be applied the whole length of the spine, and the part dressed with strychnia, in form of ointment, mixed with lard; the strength, two grains of strychnia to half an ounce of lard; and, as the means already tried to relieve the other symptoms were unsuccessful, it struck me that the strychnia given internally might be beneficial. I therefore gave it in doses of one-sixteenth of a grain every four hours, in pills.

6th.—Much better, as pain and cramps, as well as the dyspnœa, were much relieved, and all pain in the head and back totally gone; the urine passed freely, but as yet no action from the bowels; has slept for two hours during the night, which she has not done since consciousness returned, but complains of numbness in the extremities; pulse the same; tongue not so coated. Omit pills; ordered croton oil, half a drop, mixed with soap, every four hours, until the bowels should be relieved; and also enemata.

7th.—Much worse, as the cramps and pain have returned, as distressing as on the 4th; had a restless night; pulse 88; no febrile symptoms, but the bowels, in opposition to all the means used, still were unmoved. Ordered warm bath, and the strychnia repeated as before, every four hours.

8th.—Again better; pain, cramps, and dysphagia have subsided; bowels acted copiously; urine passed naturally; slept better; pulse 90; tongue almost clean. Pills to be repeated night and morning.

9th.—Feels as well as she usually has been: had a good night. Pulse 90: tongue clean. Pills to be taken at night, and then omitted.

No further inconvenience was felt from the former symptoms until the 14th, when the cramps in the legs and abdomen were again troublesome, but not so urgent as to allow of her calling me in; but on the 17th they became so severe, and the head painful, that fearing a relapse, I was called in to see her. I found her nearly as bad as before, with the exception of the dyspnœa and dysphagia. On inquiry, I learned that the bowels had not acted from the time the cramps came on, "which was for three days," although she had taken two doses of castor oil, and applied fomentations to the addomen; the urine also became less in quantity, and ammoniacal. Pulse still 90; skin cool; tongue again loaded. Ordered a warm bath, mustard poultice to the addomen, and an anodyne mixture, with two minims of tincture of opium in each dose, every four hours.

18th.—Much the same. Had a restless night, as cramps were coming on in paroxysms about every two hours, and lasting for about ten minutes; great anxiety; bowels had not acted; tongue rather brown, which I attributed to the opium. The strychnia pills to be repeated every four hours.

19th.—Much better. Had some rest; bowels acted slightly; urine more abundant: no variation in the state of the pulse. Pills to be repeated.

20th.—Had no return of pain or cramps since twelve o'clock last night, from which time she slept well; bowels acted copiously early in the morning; tongue much cleaner. Pills to be repeated three times a day.

21st.—Feels well. Has had no return of pain; has passed a good night; bowels acted well; tongue quite clean. Pills to be taken night and morning.

22nd.—Feels as yesterday. Slept well: no return of any bad symptoms. Pills omitted.

It is interesting to see the way in which the strychnia acted in this case, which is one of no small interest, and where, more especially, all the symptoms were relieved through its efficacy in so short a time. The peculiar manner of its relieving cramps and spasms so severe, and thereby promoting the action of the bowels and bladder, and their action still continuing without the aid of any other medicine, is altogether worthy of notice, when purgatives, enemata, anodynes, as well as external applications, proved useless. It is also uncommon to have a case in which the symptoms were so urgent as the one before us, where the circulation was so little affected, the pulse continuing much the same through the whole case, both when the pain was urgent, as well as during its absence. I have not named anything respecting diet, as I did not think it necessary to restrict my patient to any particular food. Her usual way of living is so very sinple, and the quantity taken so small, that it could not in any way add to her discomfort.

REPORT OF A CASE OF TRACHEOTOMY.

By W. Mutrie Fairbrother, M.D.

On Tuesday evening, October 15th, a fine fat boy, two years old, tilted the spout of a boiling kettle into his mouth, and was severely scalded. The characteristic signs of local inflammation was soon apparent, and increased distressingly, in spite of all the remedies which were carefully applied. Eight hours after this occurrence, respiration was so impeded, that tracheotomy was proposed to the parents, and at once consented to. It was painful to observe the little patient, alternatively flushed and deadly pale, constantly seeking, by change of position, a short interval of ease, not to be obtained; and to watch how anxiously every covering was cast off from the body, even to the woollen socks clothing the feet.

My assistants, Messrs. Carter and Christmas, securely holding the child in a proper position for the operation, I made the necessary incision, and with some difficulty, owing to the depth of the trachea and shortness of the neck, completed the operation. And here I would mention the great utility and convenience of drawing the windpipe up a little with a tenaculum, when properly exposed, as its extreme mobility and small diameter, in the young subject, render it no easy matter to make a suitable opening there. The bleeding was slight, and easily restrained by sponging with iced water. The tube being introduced, and the patient placed on his side, a violent fit of coughing came on, and some bloody mucus was expelled. Respiration, which at this time was extremely hurried, became easier by degrees. Enemas of beef-tea were administered at intervals, and by the next evening the child was able to swallow a few drops of milk.

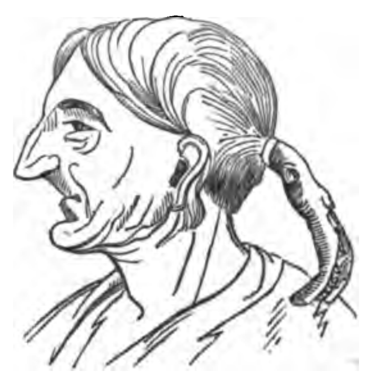
Rapidly improving in every respect, on the fourth day the pipe was removed, and the upper part of the wound brought closer together. Respiration was now nearly natural, food was easily swallowed, and great hope was entertained of his ultimate recovery. But unfortunately the family were poor, six living in this one room, and the little patient being sometimes exposed to a severe draught, at others enduring a suffocating heat. On the tenth day laryngitis came on, and the poor little fellow died at last.

ON A CASE

OF ICHTHYOSIS CORNEA, OF UNUSUALLY LARGE SIZE, ATTACHED TO THE OCCIPUT.

By Chas. A. Dalby, Esq., Surgeon, Ashby de la Zouch.

In May, 1847, I was consulted by Mrs. P——, aged seventy, small in stature, and a martyr to rheumatism. She told me she had "a horn at the back of the head," which she wished me to see. On examination, I found it to be a fine specimen of ichthyosis cornea, firm and horny in texture, of a brownish colour, and measuring six inches in length, and two and a half in circumference. The annexed drawing is a faithful representation.



Three years previously to this date, (May, 1847,) Mrs. P—— perceived an enlargement on the occiput, which proved to be an encysted tumour, and, as it appears, formed the base of this excrescence. From that period to the time I saw her, the growth was very gradual, but attended with great pain; so severe was it, that for months she could not be induced to lay her head on the pillow. This continued for five or six weeks longer, when a spontaneous separation took place, leaving a small round opening in the scalp, unattended with any discharge, and which appeared to be gradually closing. Two months, however, had scarcely elapsed, when a new growth was perceived, which slowly increased to about half the size of the former one, and fell off in April last, in the same way. This last formation presents (with the exception of being smaller) much the same appearances as the other; its growth, however, was unattended with pain.

I visited my patient yesterday, (August 27,) and found only a small cicatrix remaining. I should observe that Mrs. P—— in each case was frequently urged to have the excrescence removed, and the secreting surface destroyed, to effect a more speedy recovery, but always objected.

ON A RECOVERY FROM ATTEMPTED SUICIDE BY OXALIC ACID.

By W. Allison, Esq., M.R.C.S., &c., East Retford.

On March 10th, 1849, I was desired to see a man, aged twenty-two, nearly three miles off, who had swallowed an ounce of oxalic acid in half a pint of water, and had since vomited several times.

An ounce of castor oil, half a pound of prepared chalk, and half an ounce of calcined magnesia, with a stomach-pump, were sent by the messenger.

On arriving at the house where the man lived, the chalk and magnesia were mixed in a pint of water; but it was necessary to threaten the use of the stomach-pump, and to provide men, ropes, &c., for confining the man, before he would consent to take frequent draughts of the mixture; he vomited after the first two draughts, the rest of the mixture remained in his stomach.

After half an hour, a syphon (the stomach-pump tube) was introduced into the stomach; the man heaved to vomit, but no liquid came through the tube. The syphon was withdrawn, and the holes were found blocked up with moistened chalk and magnesia.

The man was desired to take some gruel for supper, and the oil early in the morning.

On calling the next day, he appeared to be as well as usual, and he has remained so, to the present time.

Remarks.—Probably the stomach had rejected the greater part, if not the whole, of the solution of oxalic acid before the chalk, &c. were taken. Perhaps the remedies were as suitable as any which could have been used; but the introduction of the syphon, under the circumstances, must be considered a questionable proceeding. The vessels of the lining membrane of the œsophagus and stomach might be very turgid and easy to lacerate by the introduction of a foreign body; the object in using it was to ensure the evacuation of the oxalic acid from the stomach, but I did not proceed to inject and withdraw water or thin gruel; first, because it might be better to allow the antidotes to pass through the intestinal canal; and, secondly, because much distention of the stomach might have occasioned a laceration of congested vessels, and because the man's heaving to expel the tube might have repeatedly brought the coats of the stomach in violent contact with the end of the tube, whilst I was fixing on the pump for injecting, &c.

The chief object in publishing such an occurrence as this is to afford an opportunity for useful criticism upon the management of the case.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Saturday November 24, 1850.—Dr. J. R. Bennett, President.

Mr. Haynes Walton exhibited a specimen of

ENORMOUS FATTY TUMOUR,

which weighed fifteen pounds, more as a curiosity than to illustrate any point in surgery or pathology. Its great size rendered it remarkable. The man from whom it was removed was aged fifty; he had acquired notoriety from having been the inmate of several hospitals, to which he had resorted for its removal, but he always left before the intended operation. Just twenty years ago he observed the first traces of its growth. He applied to him (Mr. Walton) in March of this present year, and begged him to remove it. At the time he had a slight cough, and was getting thin. His chest having been examined, it was suspected that he was suffering incipient disease in the apex of the left lung. He subsequently much improved, and his cough left him, and he begged of Mr. Walton to operate. After a consultation, it was determined that an operation was justifiable. There did not appear to be the development of any disease that forbade it—an opinion which had been expressed at all the hospitals to which he had applied. The operation was performed on the 21st of July, in the presence of several surgeons. This cast exhibited was taken a few days before the operation, and was a correct representation of it. It showed the tumour to be of great size, of a quadrilateral form; its situation was on the right lumbar and gluteal regions; its base measured three feet. The integuments were divided by two transverse incisions and a vertical one. The investing capsule was peculiarly dense, and so adherent to the tumour that not a particle of the connexion could be torn through, but required to be carefully dissected, especially as strong septa passed between and tightly embraced the small lobes that covered its surface. A considerable quantity of blood was lost, not from arteries that fed it, for they were small, and quickly tied, but from the emptying of the blood that was contained in the fatty mass. He was very low for several hours after the operation, but rallied wonderfully by the next day. The density of the capsule, its firm adhesion, the hardness of the fat and the vascularity, were peculiarities, some or all of which might have been due to the many irritating substances that had been applied to it for years with the view of dispelling it, (when he first applied to Mr. Walton the entire skin over the tumour was raw, from some escharotic that had been given him by a quack doctor;) and also the pressure to which it was subjected from the belt with which he bound it to the trunk, for when it was allowed to swing about pain was produced.

Mr. PILCHER read a paper on

CERTAIN AFFECTIONS ON THE NERVOUS SYSTEM SIMULATING CHOREA.

CASE 1.—In August, 1847, Mr. Pilcher saw a young man, aged twenty, in Berkshire, born of healthy parents, and living in a healthy district, who was affected with slight erratic movements of the upper limbs and face. There was also, apparently, extreme dyspnœa; the breathing was stertorous, and inspiration appeared to require the most laborious exertion of the muscles; expiration was less laborious. This had lasted for several months, without interruption, except during sleep. Walking was very difficult, though the patient could keep himself erect with very little assistance. He was treated in various institutions, and had now in a neat measure recovered, the following being his condition on October 20th, 1850: The bowels, urine, and appetite were all well; sleep good; pulse rather quick; face flushed; he blushed easily, and considered himself very nervous. No cause could be assigned for the affection.

CASE 2.—Mr. J. M——, a respectable tradesman of Chelmsford, in 1837, had a severe attack of bilious fever; and, in the next year, had occasional very slight "unpleasant" feelings in his head, when sitting in a confined posture. Two years after this, the feeling had become more intense; he could not sit at ease without putting his hand to his head, though without being able to assign a reason. After this, when he was sitting in a confined posture, the head would "give a sudden snatch" to the left side; and this was always prevented when he was able to keep his hand applied to his head. In 1841, the affection had become much more severe, but frequently did not occur when the patient most feared it. Various treatment—leeches, aperients, iron, nitrate of silver, electricity, &c.—had been tried, but with at most only temporary success, and the disease still continued unabated, up to the present time. It was mitigated in severity by mild tonics, and occasional aperients; and increased by nervous excitement, powerful purgatives, and depletion. There was an elevation of the right shoulder, with fulness over the right scapula, probably arising from the excessive action of the muscles of that side, especially the trapezius. The trapezius and sterno-mastoid muscles of the left side appeared partially paralyzed. The patient had felt no pain in the head or neck. Two analogous cases, in females, furnished to Mr. Pilcher by Dr. Lavies, were also read. The patients had recovered under tonic treatment.

Remarks—Mr. Pilcher believed that ordinary chorea was an affection of the excito-motor system, and mostly produced by eccentric irritation; but in the cases now related, no eccentric cause could be assigned: the disease seemed essentially functional. He compared the choreic affection, to a certain extent, with hysterical affection of joints, described by Sir B. Brodie; the alliance appearing to exist in the disorders being similar in character, commencing in the brain, but affecting different parts of the nervous system; the sensory nerves being affected in one series of cases, and those of volition in another. That they were brain, or mental affections, seems proved by their occurrence in persons of weak mind, or whose intellects, naturally powerful, had been overworked; and by the success obtained by renovating the mind, either through the medium of the body, or by directing it to more healthy occupations. No tenderness of the spine had been observed by Mr. Pilcher in the first cases, nor could any mental cause be assigned.

Dr. WINSLOW inquired whether the spine had been examined, and what was its condition? and Dr. T. THOMPSON wished to know whether the patient was plethoric or anæmic?

Mr. PILCHER said that in both the cases detailed by him the spine had been carefully examined, but there was no evidence whatever of disease in that region; with the exception of a little quickness of pulse, the result, probably, of recent travelling, and the fact of one of the patients being somewhat nervous, and blushing easily, neither of them presented anything remarkable. There were no mental or other known cause to account for the attack. One of the patients, however, had suffered from an attack of bilious fever about twelve months previous to the onset of the nervous affection.

Mr. HIRD remarked that the cases opened out questions of much importance. It was evident that chorea resulted from many causes, and admitted of cure in various ways. Frequently chorea was of centric origin, and was immediately referrible, in its cause, to the spine: often there was some tenderness over the spinal region, and remedies applied to remove this would remove the disease. In children, however, his experience had convinced him that chorea, in the majority of cases, was referrible to a deranged condition of the alimentary canal. Under these circumstances, purgatives were usually the best remedies. Tonics were, however, very often required, after the bowels had been freely acted upon. Other remedies had been proposed, but he thought, as a general rule, the curative measures must be directed, either directly to the spine, or to the alimentary canal. He reprobated the operation which had been performed in one of the cases detailed, and said that a sham operation, such as had been practised in a case brought before the Society some sessions since, would have been as effectual, and a more humane course of proceeding.

Dr. THEOPHILUS THOMPSON considered that it was scarcely fair to regard the cases detailed by Mr. Pilcher as instances of chorea, which consisted essentially in an imperfect attention of the muscular action to the will. Now, in one of the cases detailed, the convulsive action had no reference to the will; and the other was a case of impaired muscular action. He briefly related the case of a little boy, twelve years of age, who, after a severe fright, from the danger of drowning, became so affected that he could only sit in bed with his elbows placed on his knees, and his head on his hands. He breathed with difficulty. Any change of posture had the effect of making his countenance particularly anxious, and of increasing the difficulty of breathing. He continued in this condition for about a year. He was under the care of several medical men, and many remedies were unavailingly applied. If, when asleep, his position was changed, he awoke in a state of alarm and uneasiness. There was no evidence of chest or heart affection, but some dyspnœa. There was tenderness on the sides of the upper dorsal and lower cervical vertebræ. Leeches and blisters were applied over these parts, and the general health was attended to. A great relief to the symptoms almost immediately followed. The improvement was progressive, and in three months the little patient was quite well. In cases such as those described, we should examine the spine. In cases where emotion was the cause of the disease, the first impression was upon the mind, and the second upon the spinal cord. The spinal cord, in one case on record, had been found softened, from a sudden and powerful emotion. When, in cases of this description, no signs of disease could be detected in the cerebro-spinal system, he thought that we should look to the blood. He had found, in some cases, that cod-liver oil, by improving the general health, had been of great advantage.

Mr. Hunt observed that the cases related by Mr. Pilcher were interesting, as showing how little medical art could effect in some diseases. Mr. Hunt then spoke of the difficulty which was experienced in some of these cases, in determining whether the cause of the disease was centric or eccentric; he believed that in some instances the first cause was centric; the second, eccentric. He then related the case of a medical man, who, after great anxiety, became affected with a shaking of his right hand; this was followed by a shaking of the left foot, and pain in the great toe. This agitation was increased by any mental emotion. He was subsequently exposed to great privations, and his bodily strength was much reduced; he was in the habit of removing an obstinate costiveness by a dose of calomel and colocynth, taken every night. The motions were dark and offensive. Mr. Hunt immediately had him placed in a nitro-muriatic-acid bath, and prescribed for him taraxacum and liquor potassæ; he was also ordered to be dry-cupped along the spine, from the occiput to the sacrum. He was relieved by these means of the shaking to a great extent; but as it returned, cod-liver oil was administered. He improved under this treatment, but becoming subsequently attacked by psoriasis, was placed under small doses of arsenic, with the effect of completely curing him. He had seen several other similar cases, in which tonics and dry cupping had been of the greatest advantage.

Dr. Forbes Winslow did not consider the cases related by Mr. Pilcher to be instances of chorea, but that they belonged to a class of diseases of an anomalous character. Generally, however, he thought we must look to the spinal column for the cause. He recollected a case somewhat similar to those related, but in which the main symptom was obstinate and distressing dyspnœa, unaccompanied by disease, either of the heart or lungs. Many remedies usually employed for dyspnœa had been resorted to without any relief whatever. Cold affusion was applied to the spine; in a few days the dyspnœa was mitigated, and very shortly entirely removed. In this case there was doubtless some functional disorder of the cerebro-spinal axis. Mr. Pilcher's cases were rather those of pseudo chorea, than what might be called pure chorea; in the latter affection he had seen many cases in which the cold affusion to the spine had succeeded in effecting a cure when all other remedies had failed. It was *here*, then, that we must look for mischief in similar cases, and real mischief might exist without the development of local symptoms.

Dr. Lankester spoke at some length on the pathology and treatment of nervous affections, and made some judicious remarks on the necessity of making an accurate diagnosis, and on treating the disease according to the pathological conditions manifested.

Dr. R. Chambers believed that tonics were usually called for in cases of chorea; local depletion might in some instances be necessary. He thought he should try chloroform, after attention had been directed to the general health, in the next case of chorea he had to treat.

Mr. Dendy said that, usually, the proximate cause of these affections was in the cerebro-spinal axis, though the exciting cause might be in the digestive organs.

Dr. Crisp thought that the matter under discussion might be simplified by excluding the consideration of chorea altogether. Local affections of the nervous system might exist as the result of a want of balance of the nervous power. Hence irregular action might arise. In the first case detailed by Mr. Pilcher, the man was in health until he was attacked by fever. During this disease, perhaps, some portion of the brain or spinal cord, or their covering, might have become disorganized, and the symptoms exhibited have been the result of such change. He mentioned a case in which, for a fixed condition of the head, he had divided the sterno-cleido-mastoid muscle, with success.

Dr. Downing should regard these cases somewhat in the light in which we were in the habit of viewing cases of neuralgia, in which there might, or might not, be spasmodic action of the muscles. We knew not why the motive fibril of the nerve at one time, and the sentient fibril at another, should be affected, but such was the case. When we looked for the origin of the affection, we as often failed to find it as we succeeded. But the cause was sometimes eccentric, sometimes concentric. Like our treatment of neuralgia, we must exhibit our remedies on general principles, and these were the safest and most successful guides in obscure cases.

Mr. Pilcher briefly replied, and said that he had not called the disease chorea; for, indeed, he did not know what it really was, but he had said it simulated chorea. He had heard nothing to induce him to change his opinion, that the cases had a centric and not an eccentric origin. He believed the cerebro-spinal system was affected, but what part of it? He doubted if it were spinal, as some had thought; neither was it excito-motory. He believed the disease was in that portion of the brain which influenced volition, and that the symptoms, independent of this, were additional ones to the original diseases. The symptoms had their origin in the brain, not, as chorea did, in the spinal column. Mr. Pilcher then made some observations on what had been called cases of deception, with the view of showing that they frequently had their origin in diseased function, and were ideal diseases. He illustrated the influence of imagination by reference to cures effected by sham operations; and after thanking the audience, sat down amid applause.

Mr. I. B. **Brown** read a paper

ON THE TREATMENT OF OVARIAN DROPSY BY THE PRODUCTION OF AN ARTIFICIAL OVIDUCT.

He commenced by observing that he brought forward this new mode of operating in ovarian dropsy, not at all as a substitute for pressure, but as a means to be resorted to where pressure from any cause had proved unavailing, or could not be applied. Indeed, he was more firmly convinced than ever of the curative efficiency of pressure. The operation he now proposed he would designate but a modification of a previous one proposed by Mr. Bainbridge, of Liverpool, and to that gentleman he would accord the merit of having first seized upon the guiding principle—that of setting up adhesions between the sac and abdominal parietes, and leaving the sac to exhaust and destroy itself, by its discharge through an artificial opening. This principle, observed Mr. Brown, has been indicated to us by Nature in the cures of ovarian dropsy occasionally witnessed by the accidental formation of a fistulous opening into the sac. The author then proceeded to describe the modified operation he recommended. This operation consists in making an oblique lateral incision in the middle third of the oblique line, extending from the umbilicus to the anterior superior iliac spine, reaching at first to the peritonæum; then puncturing and emptying the cyst by a trocar and canula; and the peritonæum being reflected, to subsequently stitch the cyst to the aponeurotic tendon of the external oblique muscle; and this being done, to divide the cyst between the line of the sutures; and finally, in keeping up the communication between the interior of the cyst and the exterior, allowing the free and constant escape of all secretions produced within it. This operation of Mr. Brown differs from that practised by Mr. Bainbridge, in that the fistulous opening is formed in the side, and not in the middle line, whereby the discharge from the wound is facilitated, and the greatest comfort to the patient ensured. In illustration of the practicability and advantages of the operation, Mr. Brown proceeded to narrate the history of three cases, in which he had carried it into practice. In the first case, which was one of long standing, tapping had been performed several times. It afforded her so little relief, on the last occasion, and her health was so rapidly giving way, that it was determined to perform the operation under discussion. The patient went on well for five days, but then became subject to fainting fits and much dyspnœa. Dr. Sibson considered that the patient suffered from disease of the heart. She died within a month of the operation. After death a considerable amount of visceral fluid was detected. The ovarian cyst was adherent all round the incision. It communicated at its posterior surface, by an opening of some duration, with a smaller cyst, and by this with several others. The contents of these cysts differed in their nature. In commenting on this case, Mr. Brown said he regarded the fatal result to be mainly attributable to the amount of organic disease present, and that it did not militate against the value of the operation. The second case was one in which tapping afforded so temporary a relief, that this operation was performed; her general health, however, and weakness, holding out but little hopes of success. The walls of the cyst and peritonæum were found adherent, and an apparently solid elastic tumour occupied the interior of the cyst. All went on well for the first fortnight; she then caught cold, and suffered considerably. This was overcome by remedies; but the discharge diminished, and this was found to arise from adhesion between the walls of the cyst and the tumour. The effect was the division of the cyst into two compartments, from one of which no fluid was evacuated; the evil was removed by breaking down the adhesion, and placing in the orifice a pledget of lint. The operation was performed in April. She went on well without any remarkable symptoms until July, when the large cyst in a putrescent state escaped through the orifice. At the end of August vomiting of a persistent character set in; she was seized with paralysis of the left side, and died comatose. An autopsy being made, a cyst, capable of holding an orange, was found in the right ovary, communicating externally by a healthy fistulous canal. The wall of this cyst was soft and disorganized posteriorly, and there was a laceration, apparently made during the examination, through which some of the pus it contained had escaped into the recto and vesico-vaginal pouches of the peritonæum; the latter presented no appearance of inflammation. From three to four small cysts, varying in size from that of a currant to that of a grape, existed just within the line of the incision. The kidneys were soft, large, and pale; the liver remarkably yellow, and the brain soft and unusually pale. In this case as in the last, Mr. Brown attributed the fatal result to the impaired health of the patient, though she would no doubt have died ultimately of the suppurative discharge. The third case was one of multilocular tumour, very large and adherent. The operation was performed. The contents of the cyst were highly albuminous. Soon afterwards inflammation in the cyst was set up. This was subdued; but the patient sank from exhaustion, the discharge having become offensive. Extensive adhesions anteriorly were found after death. The external wound was healthy. Mr. Brown remarked, that though this could not be called a successful case, yet the operation itself was satisfactory, and could not be assigned as the cause of death—an event which, in all probability, would not have been long postponed had no such attempt to relieve the patient been made. The last part of Mr. Brown's communication was occupied by the enunciation of some practical deductions—viz., 1. That some cases are curable by pressure, according to the plan of the author, as laid down in previous papers published in the THE LANCET, to which he would also refer for a description of the sort of cases to be so benefited, and which, speaking generally, are those in which the cyst is unilocular, without adhesions, its contents clear and not albuminous, and where the condition of the patient affords time for the requisite perseverance, no counter indications existing. 2. That some multilocular cases, and such as present adhesions of the cyst, are to be materially relieved and retarded by pressure. For illustrative cases he would refer to his papers in THE LANCET. 3. That in cases where pressure has failed, or is contraindicated—whether the disease be unilocular or multilocular, but without adhesions, extirpation affords a means of cure. But in all such cases, before this severe operation is resorted to, time and the condition of the patient not opposing, pressure should be first tried. 4. That where the extent and character of the adhesions forbid extirpation, and where pressure is contraindicated, or has been practised and failed—in such cases, the lateral operation above described presents a means of cure, having the greatest promise of success. 5. That this lateral operation may be performed with facility, and is attended with little danger, no case of peritonitis having occurred to the author in the many instances in which he has had occasion to cut down upon and divide the peritonæum in the operation in question, and also in others.

Mr. **Hird** thought that the operation had been fairly tested, and found wanting—three cases, three deaths. He commented severely on the performance of the operation in the first case, in which there was so much organic disease; with respect to the other two cases, in which the system was broken down, he thought it not desirable to operate. He believed Mr. Bainbridge's operation, which was the one under consideration, had been fatal in all the cases in which it had been performed. After making some general remarks on the unsatisfactory results of most cases of ovarian dropsy which had been treated by operative procedure, he concluded by expressing his belief that, generally speaking, the patients in this disease had a better chance of prolonging life by constitutional treatment, quiet, and the avoidance of local interference.

Mr. **Wade** briefly related two cases, which were strikingly illustrative of the difficulty of diagnosing ovarian tumours. In one case, on opening the abdomen, the tumour was found to be a large fibrous growth of the uterus; and in the other case, the adhesions after incision were found so strong and general, that the operation was abandoned. Both these cases occurred to excellent surgeons, and their opinion on the nature of the cases had been fortified by that of others. He spoke of the danger of injecting ovarian cysts, and related cases in point. He agreed in the opinion that it was desirable to do little to ovarian tumours, except when inflamed, and then a few leeches might be applied. Constitutional remedies were the best. He preferred Mr. Jeaffreson's plan of operating to others—that of bringing the cyst through a small aperture, and placing a ligature round the pedicle, and this operation was only applicable to simple and uncomplicated cases.

Dr. **Tilt** said the operation was not new, neither was it good. He spoke of the danger of keeping open the cyst, and declared that ovariotomy was preferable.

Dr. **Snow** said that he had been present at four operations of the kind described, and had seen another patient after she had undergone the operation. Although two or three of these patients survived for a few weeks, not one of the five recovered. Some of them, he believed, could not have lived very long if nothing had been done; and the operations at the time they were performed were, he considered, a praiseworthy effort to prolong the life of the patients; but the result was not such as to encourage a repetition of them in future cases.

Dr. **Pettigrew** defended the operation, and eulogized the courage of Mr. Brown in stating the cases fairly. He then spoke of the general success of ovariotomy in the cases operated upon by Mr. Lane, and concluded by some remarks on the difficulty of diagnosis in ovarian disease, and stated his conviction that it was impossible to determine whether a tumour were unilocular or multilocular.

Dr. **Murphy** made some remarks on the unsatisfactory nature of the statistics respecting ovarian operations. If we operate, on what principle did we do it? He could understand the principle of pressure in simple unilocular cases, but even here, though the pressure had been applied with great care, he had not succeeded in three cases in which he had tried it. On what principle was the operation under discussion undertaken? He proceeded to say, that if an operation were determined on in any case, he should prefer either pressure or ovariotomy to the very equivocal kind of operation under debate.

Mr. **Nunn** defended the principle of the operation, and thought it would succeed where the health of the patient was such as to give a fair chance of success. With respect to diagnosis, he believed these cysts were generally multilocular.

Mr. **Chippendale** attributed the failure of these operations to the magnitude of the exposed surface of the serous membrane, and leaving it open to the air. In the healthy serous membrane secretion and absorption went on, but here there was no absorption.

Dr. **Knox** spoke of the difficulty of diagnosis in ovarian disease, and related a case in which the abdomen was opened for what was supposed to be ovarian tumour, but which proved to be tympanitis.

Mr. **Brown** briefly replied, and said, that to ensure success, an early resort to surgical procedure was necessary. The good results would be in a ratio to the early stage at which an operation was performed. One of Mr. Bainbridge's cases was successful, and several successful cases were recorded by French writers. He agreed with Mr. Wade on the danger of injections. He spoke of the advantages of a smaller opening, and should employ it in his next cases. After some general remarks, and stating his desire only to bring forward facts and to get the experience of others, the Society adjourned.

PATHOLOGICAL SOCIETY OF LONDON.

Tuesday, November 12, 1850.—Dr. **Latham**, President.

Mr. **Cæsar Hawkins** related a case of

STRUMOUS DISEASE OF THE OS CALCIS, FEMUR, AND CRANIUM, RESEMBLING MALIGNANT GROWTHS,

and exhibited two preparations of necrosis of the os calcis, in which the dead bone, infiltrated with pus, was still entirely connected with the living bone, although the disease had commenced eight years previous to its removal by amputation; the joints between the astragalus and the os calcis were partially anchylosed: and, although the astragalus itself was quite healthy, the joint between it and the tibia showed the commencement of ulceration of the cartilages, demonstrating, as Mr. Hawkins remarked, the manner in which the inflammation of the soft part sometimes conveyed disease from one tarsal or carpal joint to another, and causing the removal of pieces of necrosed bone, or the excision of even an entire bone to be not always successful. The case was remarkable, however, more from its history, as illustrative of the difficulty occasionally observed in distinguishing between simply scrofulous diseases and malignant affections. The patient, a young woman, was admitted into St. George's Hospital, with a large phagedænic ulcer of the inside of the ancle, excessively painful, and requiring large quantities of opium for its relief, with much thickening of the soft parts, looking, in the sections, not unlike schirrus, and having in the centre some warty granulations, resembling the cancer of cicatrices, (of which Mr. Hawkins has written a description;) in the centre of which the probe passed down into the joint between the astragalus and os calcis, without touching dead bone. After some attempts to heal these parts, amputation was proposed, but declined by the patient. After a few months, a mass of glands appeared, low down in the groin, as large as an orange, as if enlarged by the contamination from the apparent cancer below, which did not suppurate like strumous glands, but sloughed gradually away. After previous ulceration of the skin, and as some were destroyed, fresh masses formed by their side, which went through the same process of sloughing during two or three months. About the same time there formed at the lower part of the femur, on its inside, a firm elastic tumour, obviously connected with the periosteum, but without bony deposit, about four inches in length, and perhaps two inches in height; and soon after this a growth took place on the left side of the frontal bone, soft in the centre, and consisting apparently of a morbid growth in the diploe, making its way by pushing out the outer table, with a little absorption of the bone in the centre. Thus was formed a continuation of appearances, in every respect seeming to confirm the supposition of the malignant nature of the original disease, and quite sufficient to deter Mr. Hawkins from operation, for which the woman was now desirous. In two or three months more, however, and as it seemed, chiefly from the use of iodide of potassium and sarsaparilla, all these latter growths disappeared; the tumour of the thigh gradually subsided, the glandular masses all sloughed out, and the part healed; the growth of the diploe disappeared, the bone recovered its former level, the skin recovered from the sallow complexion it had assumed, and amputation was performed. The patient was quite well a year and a half afterwards, and it is presumed, therefore, that the deceptive growth of the femur and cranium and glands could not have been malignant, and perhaps not so the morbid texture in the ulcer of the foot. It seemed, therefore, not undeserving of the attention of the Society, in conjunction with the case about to be related by Mr. Hewett, in which a similar difficulty of diagnosis existed as to the strumous or malignant nature of the disease.

Mr. **Prescott Hewett** presented a specimen of

CRUDE TUBERCLE IN THE MEDULLARY CAVITY OF THE FEMUR,

an affection which he announced to be very rare, more particularly in this country. The preparation was taken from a man of about thirty years of age, who was admitted into St. George's Hospital a few years back, with a tumour situated at the union of the middle and lower thirds of the thigh, a careful examination of which proved that the disease was intimately connected with the bone, apparently springing from it, and occupying the greater part of its circumference. Somewhat globular in shape, this tumour was unyielding in its nature, but not painful when handled; its surface was mostly smooth, and the circumference of the affected bone was larger in this part by two inches than that of the opposite one. The patient reported, that fifteen months previously to his admission into the hospital, he, for the first time, began to suffer much shooting pain in the bone, which deprived him of rest. Three months after this, the swelling made its appearance, and gradually increased in size; at this time he also suffered from swelling and induration of the testicles; this subsided, and then recurred once or twice, leaving the right testicle and cord somewhat enlarged and hard. His health had begun to fail about seven months after he was first attacked, and the pain in the thigh had, with few intermissions, been continual, and of a severe character. The countenance was anxious, sunken, and sallow; there was little or no appetite, and the general health was much broken. The prevalent opinion was, that the disease about the thigh was of a malignant nature. No operation was accordingly proposed, the aspect of the case being too unfavourable. The patient was put upon sarsaparilla, and blue ointment was applied to the testis. In a few days the gums were affected, the countenance became very anxious, and the skin slightly jaundiced; he also now complained, for the first time, of great pain in the right hypochondriac region, where the liver was found to be much larger than usual, hard, and very tender. Blisters were applied to the abdomen; the mercury was discontinued, and hydriodate of potash was ordered with the sarsaparilla. Under this treatment the general health began to improve, the hardness and swelling of the testis gradually disappeared, and in some little time the tumour of the thigh, when measured, was found to be less by an inch. These favourable symptoms continued steadily, and in a few months the man was made an out-patient, the hepatic symptoms being at that time but slightly marked, and the thigh presenting merely some general thickening of the bone at the part which had been affected. He was re-admitted, in the following year, into the physician's ward, for ascites, and while there was attacked with erysipelas, of which he died.

At the post-mortem examination, extensive deposits of tubercular matter were found under the peritoneal covering of the right lobe of the liver, as well as in numerous parts of the sub-peritoneal cellular tissue generally. Similar deposits existed also in the structure of the kidneys, spleen, and lungs. On examining the parts which had been involved in the disease of the thigh, great thickening and condensation were observed about the cellular tissue uniting the muscles, and in that between the muscles and the bone; the periosteum, which was also very much thickened, presented on its free surface a large patch of tubercular matter, enveloped in a dense cyst. The bone itself was irregular in shape, much hypertrophied, and very hard; at this part the medullary cavity was filled with tubercular matter, surrounded by gray, semi-transparent lymph, presenting very much the appearance of the well-known granule of the lung. No other bones were examined. In addition to the rare occurrence of crude tubercle in bone, Mr. Hewett thought that the history of this case afforded a very good illustration of the great difficulties connected with the diagnosis of tumours affecting the osseous system. The more marked symptoms of the case certainly led to the supposition that the disease was of a carcinomatous nature; but this opinion was found to be erroneous by the disappearance of the tumour, which in all probability had been formed for the greater part by lymph effused around the tubercular matter found in the cellular tissue between the bone and the muscles.

Mr. **Arnott** exhibited a specimen of

FRACTURE OF THE SPINOUS PROCESS OF THE AXIS, WITH DEPRESSION OF THE SEPARATED PORTION; DEATH OCCURRING ONE HOUR AFTER THE ACCIDENT.

A man, aged seventy-four, was admitted into University College Hospital, July 13, 1850. He had for many years suffered much from pains in the head, for which he had at different times been a patient of the hospital. They were described as most violent, and periodically recurrent, and were most relieved by incisions in the scalp,—quinine, &c., being given without benefit. Twice he had suffered from symptoms of acute mania. On the day of the accident he had been occupied upon business of an anxious nature. On his return home, he complained of feeling giddy; and immediately afterwards, on descending the stairs to the kitchen, he fell down to the bottom of the flight. When taken up, he was senseless and motionless; but he soon recovered sufficiently to speak. He was admitted into the hospital about forty minutes after the accident. He complained of pain in the back of the head; on which was found a wound about half an inch long, and to its left a contusion of the scalp; no fissure was detected in the bone below the wound. He was sensible, but knew nothing of the accident; said he could not move his arms, and wished to be raised up: when either arm was raised up for him it dropped immediately; and he complained of no pain in them when pinched: he could move his lower extremities, when desired, with facility. Right pupil moderately dilated, but acted freely, (left eye diseased;) pulse 90; breathing quiet; surface of body warm; complained of cold hands and feet, and desired them to be rubbed, though they were as warm as other parts of the body. Blood in small quantities escaped from the mouth, which was not accounted for. Soon after admission, it became evident he was sinking; and he died twenty-minutes after he had come in.

Post-mortem Examination.—No fracture of the skull; calvarium very thick and dense. *Dura mater:* near the longitudinal sinus on the posterior portion were a few opaque patches; glandulæ Pachioni not well marked; meningeal veins less turgid than usual. On dividing the dura mater on the left side, about a drachm and a half of sero-sanguineous fluid escaped; and similar fluid on the right side, though less in quantity. The under surface of dura mater pale, and covered with a layer of apparently recent lymph. On the left side the membrane was found much thickened; over the lateral region, about two lines in thickness, extending upwards about one inch. This thickened part is divisible into two layers, the outer one of the thickness and consistence of the dura mater in other parts—the inner being thicker, of fibro-cartilaginous consistence, and above continuous with the arachnoid, where the opacity and thickness subsided. Near the longitudinal fissure their adhesions extend between the two layers of arachnoid. The longitudinal sinus contained a small clot, posteriorly, and about half a drachm of dark fluid blood. The pia mater presented much fine ramiform and capilliform injection. The larger venous trunks rather turgid. On removing membrane from its left hemisphere, a small quantity of serum exuded; surface of brain presented various amounts of punctiform injection; veins of medulla congested; ventricles empty; choroid plexuses pale; commissura mollis absent; fornix a little softer than natural; weight of brain forty-six ounces; of cerebellum, five ounces and a half.—*Neck:* On cutting down upon the cervical vertebræ, much blood was found extravasated between the muscles, especially between the complexi. On reaching the vertebræ, the spinous process of the axis was found broken off with a portion of its laminæ, the posterior arch remaining entire. The broken-off spinous process is much depressed below the others, and wedged in between the arches of the axis, and the vertebræ below it; possibly it had pressed on the cord, but though the fractured edge nearest the cord was sharp, it had not injured the dura mater. The canal being exposed by the removal of the arches of the vertebræ, a considerable quantity of dark fluid blood escaped from it, and as low as the sixth dorsal vertebræ, blood was effused into the cellular tissue outside of the dura mater. Around the origin of the nerves to the upper limb the amount is greater than elsewhere, the greatest being above the enlargement of the cord from whence these nerves are given off. The articulations between the axis and the third cervical vertebræ were very loose.

Dr. **Peacock** exhibited two specimens of

DISEASE OF THE HEART.

The first of these was an example of extensive aortic valvular disease. The specimen was from a boy eighteen years of age, who had been ill for nearly two years, and during a considerable part of that time had been a patient of Dr. Peacock's at the City Hospital for Diseases of the Chest. His illness was brought on by a sudden mental impression, which produced a fit, and was followed by symptoms of cardiac disease. In addition to the usual asthmatic symptoms, a loud murmur was heard with the systole of the heart, and this was followed by a feeble diastolic murmur. The murmur was most distinctly audible at the base of the heart, along the course of the upper part of the sternum, and on the right of that bone, and it was accompanied by a purring tremor, felt chiefly between the third and second and the second and first right cartilages. The cardiac dulness on percussion was very greatly extended beyond its normal limits. The boy continued to be subject to fits of an epileptic character, at intervals of two or three months, and he died suddenly. He had never had rheumatic fever, or any other serious disease, before his seizure.

On examination, the heart was found of very large size, weighing twenty-eight ounces avirdupois. The hypertrophy and dilatation were very much confined to the left ventricle. The aortic valves, and especially the left and posterior folds, were extensively adherent at their angles of attachment and sides; and they were also much thickened and indurated, so as to lessen the capacity of the aortic orifice. The anterior valve was studded with cretaceous deposits, and was broken down so completely as to have an aperture, admitting the point of the little finger, by which a column of fluid freely regurgitated into the ventricle from the aorta. The aorta was much dilated in its ascending portion. The ventricular walls had undergone, in places, the fatty degeneration, and a small piece of bone was attached to the endocardium, not far from the apex. The cavity at the apex was much expanded, and the walls were there very thin, and the endocardium much indurated.

The second case was one of very advanced mitral valvular disease, removed from the body of a female, thirty-nine years of age, who had suffered from two attacks of rheumatic fever within the last ten years. She had been subject to palpitation and dyspnœa since the first attack, and had twice been a patient at the City Hospital for Diseases of the Chest. She presented the usual symptoms of cardiac disease; and a loud murmur was heard with the systole of the ventricle, most intensely at the apex, and thence towards the left axilla.

On examination, the heart was found to weigh fifteen ounces and three-quarters. The left auriculo-ventricle aperture was contracted to a mere chink, scarcely more than half an inch in length; and the folds of the mitral valve were thickened and rigid, and the cords much shortened.

Mr. **Toynbee** exhibited a specimen of

MOLLUSCUM CONTAGIOSUM DEVELOPED IN THE EXTERNAL AUDITORY MEATUS.

It was taken from a man aged sixty-seven. The existence of the disease had not been observed during life. The tumour was about the size of a small nut, and occupied the posterior surface of the outer part of the meatus. The outer surface was of a pearl-white color, and shining. Upon being opened, the interior was found to consist entirely of epidermoid scales. The tumour projected backwards, had caused absorption of the layer of bone separating the mastoid cells from the meatus, and occupied a considerable portion of the mastoid cells.

Mr. **Avery** presented a specimen of

STRANGULATED FEMORAL HERNIA REDUCED EN MASSE.

The preparation was taken from the body of a woman, aged sixty, who had been brought into the Charing-Cross Hospital, on the 1st of Sept., 1850. Mr. Avery was absent from town when she was admitted, and did not see the case till the post-mortem examination. Three days before her admission, she had been seized with well-marked symptoms of strangulated femoral hernia, and was seen by a very intelligent practitioner, who persevered with the taxis until the swelling disappeared from the groin. He thought he had succeeded in returning the bowel safely into the abdomen; the symptoms were considerably relieved at the time, and a free evacuation was procured by the aid of aperient medicines. Some few hours afterwards, however, the pain and vomiting returned, and continued so obstinately, that she was sent to the hospital. There she was treated with calomel and opium; had leeches and fomentations, &c., applied to the abdomen. She gradually sank on the fifth day after her admission, passing from time to time fæcal evacuations, which circumstance prevented any explorative operation being had recourse to, for ascertaining the condition of the hernial sac. On examination, the sac, as large as a walnut, and containing a portion of small intestine, firmly grasped by the neck, was found fairly pushed up, *en masse*, through the crural ring, and lying in the loose cellular tissues, between that opening and the peritoneum. The neck of the sac did not embrace the entire circumference of the gut, which was proved by passing a director with care close to the mesentery, from the portion of intestine above the stricture into that portion below it. This latter circumstance accounted for the continuance of fæcal evacuations, and deprived the poor woman of a fair chance, which might have been afforded her by an explorative operation. Two or three inches of gut below the stricture were very dark, and bore the marks of constriction, and had been clearly contained in the sac a short time previously, probably being liberated at the time the sac was returned into the abdomen. At the bend of the thigh, in the situation the sac had occupied, there remained the condensed cellular and adipose covering, so well described by Mr. Luke, from which the sac had been separated. It was loose and flabby, as large as the end of the thumb, and had the appearance as if the hernial sac was still there. Mr. Luke, in his paper, has described five cases of reduction *en masse* which he had seen; and Mr. Hancock has mentioned, in a recent work on hernia, that out of eighty-four cases where the bowel was returned unsuccessfully, forty-four were of this character. It offers another instance where the operation external to the sac would probably have failed. There was slight effusion into the cavity of the peritoneum, but the marks of peritonitis and injury to the coats of the bowel were not considerable, and the patient seems to have sunk from exhaustion.

Dr. Beith, R. N., presented a very interesting specimen of

DISEASED BLADDER AND DILATED URETER, WITH CALCULI IMPACTED IN THE LATTER.

A man aged fifty-three, had an attack of hemiplegia of the right side, sixteen years ago, from which he had never perfectly recovered. Three or four years ago he suffered from stricture of the urethra, for which he applied for relief, and in May last he was attacked with hæmaturia and discharge of pus with the urine. Since that time he has suffered almost constant pain in the hypogastrium and perinæum, which occasionally has assumed a violent paroxysmal form, accompanied with difficult and painful micturition. The urine alkaline, and loaded with pus and mucus, occasionally blood. He died Oct. 10th, having been in no way relieved by treatment.

Post-mortem Examination.—The right kidney was converted into a large cyst, four or five times the size of the healthy organ. It was filled with thick green fluid; from it was a large opening passing down to the ureter. This latter tube was also considerably dilated, and its coats were much thickened; its lower opening into the bladder was entirely obliterated, so that the contents of the cyst and the ureter could not escape. The inner surface of both the cyst and the ureter was rendered uneven and irregular by numerous bands passing round portions of the walls, and constricting the cavities at these points. In the ureter this occurred to such an extent, that it might be said to be divided into several compartments, one above the other. In these compartments three calculi were found imbedded, the largest of which occupied its inferior third, and was about three inches long, and three quarters of an inch in diameter. The left kidney was about three times the natural size, but healthy in structure. The coats of the bladder were much thickened, and its cavity considerably smaller than usual; its inner surface was studded with phosphatic deposit, and near its fundus was a fungoid mass as large as the palm of the hand. Examined microscopically, this mass was found to consist of triangular, oval, and other cells, of a very irregular shape, resembling those found in malignant disease. The left lobe of the cerebellum presented a singular appearance; it was tough and indurated, and appeared to have been converted into a fibrous structure. The whole had an uniform straw colour, the appearance of the arbor vitæ being nearly obliterated. The brain otherwise was healthy.

Dr. James Risdon Bennett exhibited a specimen of

CANCEROUS DISEASE OF THE OMENTUM, MESENTERY, PLEURA, ETC.

A man, aged sixty, of temperate habits, and who had enjoyed good health, was admitted into St. Thomas's Hospital, under the care of Dr. Bennett, with symptoms of ascites, and a chronic ill-conditioned ulcer, involving the ball of the great toe. He died five weeks after his admission, having suffered chiefly from dyspnœa, when in the recumbent posture.

On examination, the abdominal cavity was found distended partly by serous effusions, but chiefly by a large floating mass, consisting of the enlarged omentum. The mass had a lobulated character, and consisted of smaller masses, the separate portions of which had at first sight very much the appearance of fatty nodules, resembling the appendices epiploicæ; but on cutting into them, they presented a medullary appearance and consistence; and when examined under the microscope, were found to be composed of globular, distinctly nucleated cells, intermingled with fatty matter. The mesentery was similarly affected throughout. The right pleural cavity was filled with clear, serous fluid, by which the whole lung was compressed against the spine. Scattered over the serous membrane there were a number of small, greyish, lymph-like masses, which, on examination, were found to be of precisely the same character as the clustered masses in the abdomen. The bronchial glands and the tissue of the lung itself were healthy, and the left pleural cavity presented nothing abnormal. The liver was somewhat enlarged, and of a pale, waxy appearance. The disease of the toe appeared to be also cancerous; and if this was the origin of the disease, it was worthy of remark, that none of the abdominal glands were much, if at all, involved in the disease.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, Nov. 12, 1850.—Dr. Addison, President.

The first meeting of the Society was held this evening. The room was very crowded. The following papers were read:—

History of a Successful Case of Ovariotomy. By W. E. Duffin, Surgeon; with a Description of the Morbid Anatomy of the Sac. By Robert Lee, M.D., F.R.S.

A woman, thirty-eight years of age, having her abdomen enlarged to the size of the eighth month of pregnancy, this size having been attained in seven or eight months, her general health appearing to be good, applied to the author for relief by operation. The rapid growth of the tumour, which appeared to be connected with the left ovary, had been accompanied by neuralgic pains in the right thigh, in consequence of pressure on the sciatic nerve of that side. The tumour was very moveable, indicating the absence of adhesions. The patient was very urgent in her desire for the operation, and very confident that it would be successful; it was accordingly performed, on the 27th of August last, by the author, assisted by Messrs. Fergusson, Ure, and Henry Smith; chloroform having been previously administered by Dr. Snow. The incision, at first of only sufficient size to admit the fore-finger for exploration, afterwards enlarged to three inches, was made in the linea alba, midway between the umbilicus and the pubes. The absence of adhesions having been ascertained, the sac was punctured by a trocar, and 130 ounces of a viscid, ropy fluid, of a light brown colour, were let out. The collapsed cyst, containing a smaller cyst, the size of an orange, was drawn through the incision, and its pedicle secured by ligatures. The tumour was then separated, and the pedicle and ligatures were prevented from receding into the cavity of the abdomen by other ligatures attaching them to the wound. The ligatures came away on the fifteenth day, and the wound was healed on the twenty-second day, the abdomen resuming its natural shape and size. The patient was kept on a light diet; she took opium in sufficient doses for six successive nights, and the bowels were opened by enemata. On the eighteenth day she was able to get about a little. Her recovery has been complete, and she has been able to resume the occupation of a dressmaker.

Dissection of the Cyst. By ROBERT LEE, M.D., F.R.S.

The walls of the cyst are composed of three distinct coats or layers. First, a peritoneal covering; secondly, a middle, fibrous coat; and, thirdly, a dense, membranous sac, in which the fluid was contained. In the divided pellicle are seen the cut ends of three large arteries, and of one large vein, and of the Fallopian tube. The peritonæal coat is thin, and loosely attached at the root of the cyst; but beyond this, it is thick, opaque, and firmly adherent to the tissue below. The middle coat is thick at the root, and contains numerous branches of arteries and of nerves with ganglionic enlargements. It becomes thinner as it is expanded over the cyst, is of a dense, fibrous structure, and adheres firmly by both its surfaces. The internal membrane is firm and thick, and its inner surface is rough, irregularly puckered, and, in some, spots of a brown or yellowish colour. It consists of two distinct layers, like the coats of a Graafian vesicle. A smaller cyst is situated near the root of the larger, embedded in its middle coat, projecting into its cavity, and invested by its lining membrane, which it has pushed before it. The lining membrane of this smaller cyst also consists of two distinct layers, like that of the larger cyst. A group of small multilocular cysts is contained in the middle fibrous coat of the great cyst, and between the outer surface of the smaller cyst and the peritonæum. They have the same structure, contain a similar fluid, and bear the same relation to one another as the two cysts above described. The author remarks, that the walls of this ovarian cyst contain all the elementary structures which enter into the composition of the human ovarium in the healthy condition—peritonæum, stroma, and Graafian vesicles, with bloodvessels and ganglionic nerves. Whether all multilocular cysts are formed in the same manner, future observation must determine.

AN ANALYSIS OF 108 CASES OF OVARIOTOMY WHICH HAVE OCCURRED IN GREAT BRITAIN. By ROBERT LEE, M.D., F.R.S., F.R.C.P.

The author commences with the history of a case of ovarian dropsy, successfully removed by a surgical operation, and reported in the *Edinburgh Medical and Surgical Journal* for 1822, by Dr. Nathan Smith, Professor of Physic and Surgery in Yale College, Connecticut. He then gives an account of an operation performed by Mr. John Lizars, of Edinburgh, in 1823, when *no* ovarian disease was found after the abdomen had been opened; of three other operations, by the same surgeon, when the diagnosis was more accurate, in 1825 and 1826; and of two operations, by Dr. Granville, in 1826 and 1827. He then refers to an operation performed, in 1833, by Mr. Jeaffreson; and to three operations, by Mr. King, in 1834 and 1836. During the last twenty-seven years the operation has been attempted or performed more than 130 times in Great Britain. Of 108 cases, of which authentic reports have been received, in 37 cases either no ovarian cyst or tumour to remove existed, or there were present ovarian cysts and tumours, the removal of which was found to be impracticable, and the operation was abandoned. Of these 37 cases, 14 were fatal. The analysis given of 108 cases of ovariotomy shows that in 37, or about one-third of the whole number, it was impossible to determine *previously* whether ovarian disease actually existed, or, when it did exist, whether its removal was practicable. Of the 71 cases, in which ovarian cysts and tumours were removed, 24 proved fatal, in 14 of which the operation could not be completed. In the tabular analysis of the 108 cases appended to the paper, it appears that 45 cases are reported by Dr. Clay, and 11 by Mr. Lane; and to both of these gentlemen the author expresses his thanks for the manner in which they have communicated to him the entire results of their experience of the operation.

The PRESIDENT having called attention to the importance of the paper,

Mr CÆSAR HAWKINS rose and said,—As my name has been enumerated among those who have performed this operation, it is obvious that I have been disposed to look upon it favourably, from the accounts of the cases which have been published, in which it has been done. But I must confess, that for the last three or four years I have not altogether felt the same confidence in the propriety of the operation, and have seen the great necessity of the fullest information regarding it. It is well known that the operation has been very frequently attempted, and it is generally believed that a considerable proportion of the operations have been fatal, or have been impossible of completion, of which the public have no information. Nor could I overlook the fact, that the operation has now been attempted by ten surgeons attached to hospitals in London; that not one of these gentlemen has performed it twice; and that of these ten cases, the only one in which the patient was fortunate enough to recover from the operation was that in which I myself operated. I think, therefore, that the Society and the profession at large are much indebted to Dr. Lee for the table of cases which he has laid before us; and I feel this the more, as I believe it is owing to my suggestion that he has done this; and I must say I was delighted, when I spoke to him about it, to see him take out his tablets, and enter my suggestion in his usual short-hand notes. I felt that many of the cases hitherto recorded as having been done in foreign countries, and mixed up with our own in previous tables, were not detailed with sufficient accuracy or precision to be at all relied upon as safe guides; I felt assured that a sufficient collection of English cases now existed to settle completely the great question of the principle of the operation, and that either through the right feeling of the operators themselves, or through some of their friends, authentic histories of almost every case could be obtained, whether successful or unsuccessful, by the industry and perseverance of Dr. Lee, if he undertook such an investigation. I have little doubt that I shall be able, by examining such a table, to satisfy my own mind; and I dare say some gentlemen may already have thought that if in so large a number as thirty-seven cases—a third of the number contained in the table now given to us—it were unable to have the operation completed because of adhesions, or because there was no tumour at all, that the propriety of the operation being performed in any case whatever was at once determined in the negative. But one thing has struck me with much regret, in the reading of this list of operations: I mean, the omission of the names of two gentlemen, who are generally supposed to have done this operation very frequently in London. I do not know whether these gentlemen are present in this room, but I hope that they are. It is not my intention to say anything that can be considered offensive, and I hope, therefore, that they will not be offended with me, if I appeal to them, by expressing my desire, that before this table is published, as I doubt not it will be, by the Council, they will give the result of their experience to Dr. Lee, and that he may be allowed to incorporate their cases, with any others that he may hear of, in an amended table, with a more complete analysis of the results. One of these gentlemen, whom I venture to allude to,—I mean Dr. Frederic Bird,—has actually put on record, in some publication of his first successful cases, his opinion of the impropriety of withholding any information from the public with regard to this very operation. I appeal, therefore, to him, with the greater confidence. He stands pledged to the profession to give them an account of all that he has done on this subject. He has a perfect right, it is true, to give this information when and in what manner he pleases; but I do hope, when a person of Dr. Lee's character and standing in the profession is endeavouring to obtain complete statistical knowledge of such a very important subject, that both Dr. Bird and Mr. Walne will consider that the time has now arrived for them to make their experience available to the profession. We shall then have ample and authentic facts to reason on, and shall be able to settle the principle of the operation at once and for ever.

Dr. Frederic Bird remarked that he could not but express his surprise at the omission of his cases in the table compiled by Dr. Lee; for although he had declined giving to Dr. Lee the details of his operations, yet he had sent to him their results, and had, by letter, informed him that he had extirpated ovarian tumour twelve times—eight times successfully, and four times without success. He had declined giving to Dr. Lee any details of his operations, because he objected to the manner in which Dr. Lee's tables had been arranged—an arrangement which was at least open to error, if it were not in itself erroneous. He preferred to publish his own cases; he was about doing so, and the result of his experience would be laid fully before the profession.

Dr. Lee replied that it was true that Dr. F. Bird had furnished him with the bare results of the twelve cases in which he had operated; but this information was so meagre, that he could not, in justice to the completeness of the other cases in his table, add them to that document. Dr. Bird had declined to give him any further information on the matter. Besides, no mention was made, in the communication of Dr. Bird, of those cases in which an attempt had been made to remove the tumour without success. Under these circumstances, he had left out the cases of Dr. Bird altogether. Mr. Walne had also declined to furnish him with the particulars of his cases, and they had therefore been omitted also.

Dr. Bird having been asked in how many cases an attempt had been made by him to remove an ovarian tumour in which the operation could not be concluded, said, that he had frequently made small incisons into the abdominal parietes, for the purpose of determining the presence or absence of peritonæal adhesions, where no other means of inquiry could determine the question. Not unfrequently cases occurred, in which, from the large size of the tumour, or other causes, the ordinary means of examination was insufficient, and when the only means of completing the diagnosis was that of making a small incision—a practice which he believed to be often admissible, and not less safe,—the fear of subsequent peritonitis could scarcely be entertained, inasmuch as the close adhesion of the ovarian tumour to the parietes, when such adhesions existed, prevented the peritonæal cavity from being exposed, and there was no danger of subsequent inflammation; whilst, if no adhesions existed, the tumour could be removed. He believed the practice to be, when necessary, safe—speaking quite at random as to numbers. At that moment, he was almost afraid to state any number of cases in which small incisions had been employed without subsequent danger;—probably he might startle some gentlemen by stating as many as forty, or fifty; but of this number he was speaking quite at random, not having made any reference to his notes of cases;—certainly in no instance did any bad result ensue.

Mr. Curling inquired in how many cases patients had died after exploration.

Dr. F. Bird.—In none.

Dr. Lee remarked, that in one case explored by Dr. Bird in the Free Hospital, he had been informed the result was fatal.

Dr. Bird.—In that case, no operation for removing the tumour was ever thought of; tapping only was resorted to, and a tube left in.

Some conversation now took place respecting the propriety of reading a letter from Mr. Chance, respecting the case under dispute; but the chairman decided that it was not desirable to read it.

Dr. Lee said, that in the table before the Society, out of thirty-seven cases in which the tumour had been attempted to be removed without success, fourteen of the patients had died. This fact was amply sufficient to show that what was called "the exploration" of these tumours was by no means a harmless proceeding.

Mr. Cæsar Hawkins.—I venture to rise once more, and to repeat the appeal which I before made to Dr. Bird, that his cases may be given to Dr. Lee, to be added to his table before its publication; and I feel assured that I am only expressing the wish of every member of this Society, that every case in which the operation has been performed or attempted to be performed in this country may be communicated with the liberality which has characterized almost every one who has operated. Everything that has passed in this room shows still more strongly the necessity of this being completely done, in order that any legitimate deductions may be drawn from such a table. Dr. Bird has informed us, that besides the twelve cases in which he actually removed the ovary, of which eight were successful and four died, (not communicated, however, in time to Dr. Lee,) he has made incisions of an exploratory character in forty or fifty other cases, which he is unwilling to have considered as examples of the operation; not being quite certain of the number, we will call them only forty. Now, whatever Dr. Bird may think of it, I am quite sure that no other operator will consider it a trifle to make an incision into the abdomen of several inches in length; and all these cases ought, in common fairness, to be reckoned as cases of attempted ovariotomy. No doubt Dr. Bird has refused the operation in some cases, so that these exploratory openings must have been made, because they were not quite so clear to him; and in all these forty cases he was doubtless prepared, had he found the operation practicable, after this incision was made, to have gone on with them to the entire removal of the tumour. Observe then the result of adding these forty attempted removals to the thirty-seven recorded by Dr. Lee; we at once have no less than seventy-seven cases in which the operation could not be finished after it had been commenced—actually half of the entire number of operations which the table would then contain. Sir, before I came here to night I made this extract of what Dr. Bird has himself said:—"Another and not less important source of fallacy arises from the fact, that a most reprehensible practice exists of suppressing the publication of unsuccessful cases.—Several such have occurred, the faithful relation of which might have shed much additional light on the operation, but are still carefully concealed from the profession." Of course, sir, I have no intention of accusing Dr. Bird of doing this, and I may be wrong in calling these forty instances in which he opened the abdomen by the name of unsuccessful attempts to perform the operation of removing the ovary; but I have a right to think them such, unless all their details are given by him. He stands pledged to afford these details to the profession in the extract I have just read; and although, as I before said, he has perfect liberty to do this when he thinks right, I do trust he will satisfy himself, on further consideration, that he cannot do better than take the present opportunity of giving them to a gentleman of Dr. Lee's rank in the profession, for the scientific purposes of this Society.

Dr. J. B. **Thompson** said it would appear that the operation of ovariotomy was more fatal in this climate than in the East, where he had been lately practising. In Damascus two-thirds of the cases operated upon had been successful.

Mr. B. **Phillips** said,—I entirely concur with Mr. Hawkins in his reprehension of the practice which now so largely prevails, of publishing successful, and withholding unsuccessful cases—a practice which ought to be visited by the indignant reprobation of the profession. It is a suppression of the truth, which every honest man would condemn, and unless there be any code of honour, or morals, which allows of medical men doing what other classes of society could not do without degradation, the practice will be scouted in this Society. For many years the disposition to this practice has been growing, and it has attained to such a height that we are even at this moment unable to determine the results of most of the great operations of surgery, so as to guide us in the advice we should give to our patients. Ten or twelve years ago I tried to ascertain what was the mortality after amputation; I embodied my researches in a paper which was read before this Society. It was referred in the usual course, and one of the referees was so satisfied that my results were wrong, that he advised the Council not to publish it. This advice was followed, and the paper was not published. The years that have passed have served to show that the mortality is not as I said, twenty-three per cent., but nearer twenty-seven. If a faithful record of results had been kept, the referee, in that case, could not have fallen into such an error. No man is bound to publish his experience; but if he publish his successful experience, he is then morally bound to publish that which is not successful. He cannot honestly garble it, if the truth must be told; and the truth means the whole truth. What attached such an odium to M. Civiale's name some years ago, but that he was supposed to have told the truth in such a way as to represent an untruth? He had a large number of stone cases consigned to him for treatment by lithotrity. He stated that he had operated on 244 cases, and that 236 were cured. The whole truth was, that he had had recourse to sounding, and other manipulations, in 97 other cases, but he did not choose to complete the operation. Correctly stated, he should have said 341 cases, 236 cures. His reverses, then, should have been stated as one out of three, instead of one out of thirty. In what particular does the revelation of to-night differ from that? We are told of twelve operations, and eight successes; but nothing was voluntarily said of forty or fifty cases, in which the operation was commenced, and could not be proceeded with. For myself, I feel utterly unable to advise a patient to submit to the operation for the extirpation of an ovarian cyst. If I turn to one side, I am assured that the operation is little short of murder; if I turn to the other side, I am told it is comparatively harmless. Is it honest that medical men, having claims to respectability, should have left us in that plight, when they possessed the means for guiding our judgment? Many of the operations of surgery are performed in our hospitals, in the face of day, and the results may be registered. The operation of to-night has not often been performed in hospitals; it has been done in private houses, to which the public have no access. Is it not, then, doubly incumbent on those who have the means to remove the veil which may conceal the results of those cases? Judged, then, by the information laid before us to-night, we find that the abdomen has been laid open many times, when there was no tumour in it; that the operation has been performed, in this country 71 times; and that 47 have recovered; and from Dr. F. Bird's statement, it is made evident that so utterly valueless is the diagnosis, that he has commenced the operation—that is to say, that he has made an incision into the abdomen, "forty to fifty times," without being able to proceed with the operation. In given cases, in which the cyst was single, there was no adhesion, and the patient was healthy; the operation might, perhaps, be successfully performed, or at least it was the most likely of all cases to be successful: but it had been proved to-night, that we had no means of determining the real condition of an ovarian tumour, and not even whether it were adherent or not, without the performance of an exploratory operation.

Mr. **Cæsar Hawkins**, on rising, said, I feel that I ought to apologise for rising again, after I have already spoken twice; but I am tempted to do so from what Mr. Phillips has just said. He has spoken of cases of a single cyst in a healthy young woman, as being especially the case proper for this operation. Now, sir, I have quite made up my mind, of late, that that these are especially the cases in which it ought not to be performed. I quite agree with my friend, Mr. Phillips, that such cases are the most likely to be successful, but I believe that ovariotomy is so dangerous an operation that we are not justified in resorting to it, and encountering so much risk, unless an urgent danger is to be avoided. I have heard some persons of great eminence speak of ovarian tumours generally, as a disease that often lasts for twenty or thirty years, with generally little hazard to life; I cannot myself subscribe to such an opinion, but believe, on the contrary, that it is commonly fatal in not many years, and consequently, that in such cases the trial to remove the whole disease by operation, however dangerous, has not been justifiable. I cannot but think, however, that the profession have not commonly made sufficient distinction between cases of simple serous cyst in the broad ligament of the uterus, and the cyst formed in the ovaria themselves by growth of the Graafian vesicles. In the latter only, as I think, is it, that there is such a constant tendency to form the thick, tenacious mucus, which is, I presume, in reality, purulent secretion, converted into mucus by alkali, constituting a great abscess. In this only is there much risk of secondary cysts forming a multilocular tumour, and an almost invariable tendency to increased rapidity of the filling of the sac, all of which lead to a fatal result in a given number of years, and are sufficient to justify a dangerous operation, which is not proper in cases of the sacs of nearly pure water developed in the other situation. To show the great variableness with which the fluid may be secreted in cases of the serous cyst of the broad ligament, I will venture to describe the several periods of tapping necessary in a case which I believe to be of this description, the patient being, however, still alive. A young woman, when seventeen years old, began to enlarge, in the year

1834; in August, 1837, three years afterwards, I tapped her, and removed ten pints of simple watery fluid; in February, 1838, nine pints of the same transparent liquid were drawn off, being six months after the first operation; in May, 1841, eight pints were removed, being three years and three months since the last time; in May, 1842, only one year afterwards, six pints; in October, 1844, eight pints, being no less than two years and five months between the two operations. In Feb. 1846, ten pints were removed, at an interval of only one year and four months, scarcely more than half the former period. In Feb. 1849, she married, and was confined in Nov. following, after which she was near dying from a return of the dropsy, which had not been noticed till after her confinement, and may have been excited by the pregnancy; in Feb. 1850, however, she again had ten pints of the same clear fluid removed, being no less than four years from the last tapping, after which she again recovered her health. I am inclined to think, from other cases of serous cysts, that there is a greater chance of prolongation of life than in the more common tumours, whether single cysts or multilocular, which are situated in the ovarium itself, and hence I should not now think myself warranted in removing these cysts in the broad ligament, as I have hitherto done with regard to the more rapidly fatal tumours of the other description.

Dr. Tilt considered that the Society was much indebted to Dr. Lee for the table before them, and which must be interesting to all. It was most desirable that all the evidence respecting ovariotomy that could be procured should be brought forward in order that we might be able to form a definite opinion on this really most important operation. In his (Dr. Tilt's) opinion, Dr. Lee had started on the right principle in this inquiry, and had refused most properly to club all kinds of cases together. He had followed out the individual history of each case, and had classified them accordingly. This was the only way in which the cases could be made valuable in determining the risk of the operation. For instance, some of the cases of ovarian disease were of a very chronic character, whilst, in others, the disease was so acute as to resemble peritonitis in a mild form. Now, it would be obvious, that to class these two forms of cases together might lead us to a most erroneous conclusion. In the chronic form of the disease, attacking patients late in life, it was, he believed, unjustifiable to operate; but in some cases, where the disease was more acute, and it occurred between the ages of eighteen and thirty, it might be justifiable. Dr. Atlee, of Philadelphia, had operated in thirty-six of such cases: of these, twelve died, and twenty-four recovered. Looking at the mortality in those cases where no operation was performed, and to the fact that life was very rarely prolonged beyond two or three years, it would at once be seen how important it was to arrive at right conclusions respecting the operation. The question, then, immediately suggested itself, as to which were the cases most favourable for operation. Upon this point we must remain in doubt, so long as fatal cases, and their histories, were withheld from publication.

Mr. B. Phillips requested permission to offer a few words in explanation, after the remarks which had fallen from Mr. Cæsar Hawkins. He (Mr. Phillips) did not wish to be understood, in his remarks, to mean the ordinary serous cyst, and its ordinary termination; but he would state that he had seen ovarian tumours removed on eleven occasions. In six of these cases the cysts contained serous fluid; and of the six patients he had every reason to believe that four got quite well. It was this fact which had induced him to say that he regarded the simple serous cyst as the most likely case in which an operation would prove successful.

Mr. I. B. Brown, speaking from considerable experience of ovarian diseases, would repeat some conclusions at which he had arrived respecting its treatment. These conclusions he had read before another Society, on a preceding night.

(Mr. Brown's conclusions will be found under the head of Medical Society of London.)

Mr. Lawrence rose and said—Mr. President, I did not attend the meeting of the Society to give information, for I have no experience in ovariotomy; I have not performed it, and unless my view of the matter should be essentially altered, I never shall; nor have I seen it performed. I came, Sir, to listen and to learn, and my expectations have not been disappointed. I have heard things strange and new, at the same time instructive. From the interesting document presented to the Society by Dr. Lee, for which he deserves the best thanks of the profession, the public, and more especially of females labouring under abdominal enlargement, it appears that in thirty-seven out of 108 authenticated cases of operation collected by him, it was found, when the abdomen had been exposed, either that there was no diseased ovarium, or one so circumstanced as not to admit of removal. We cannot help believing that this announcement, however unexpected and startling, represents ovariotomy in too favourable a light. Dr. Lee's list is imperfect, confessedly so; it contains only the cases of which he has received authentic accounts. There is no reason for supposing that any successful operations have been omitted. We have generally, perhaps invariably, heard of them, as soon as the cicatrization of the wound had been completed. The same alacrity has not been observed in the communication of unsuccessful cases; and I am not aware that any of the thirty-seven cases just alluded to has been published by the operator. We can hardly doubt, therefore, that if a correct list were drawn out of all the operations, the proportion of cases in which ovariotomy had been fatal would be increased, and that a considerable addition would be made to the thirty-seven instances, in which the perilous proceeding of exposing the cavity of the abdomen had been resorted to unnecessarily. Dr. Lee's list, however, as it now stands, is quite sufficient to make us doubt the propriety of admitting ovariotomy into the catalogue of recognised and approved surgical operations. We are still in the dark on one point, which ought to be ascertained before we can determine the true value of the proceeding; that is, its influence in prolonging life. Our excellent colleague may probably have acquired information on this point, in prosecuting the researches, of which he has now laid the result before the Society, and he could probably render them still more complete by learning the subsequent history of the cases, in which the operation had been successful, by ascertaining the kind of health enjoyed, and the duration of life after recovery. The chances offered by the operation would be expressed by the average duration of life in those who have undergone it, if that can be ascertained, reduced in amount by a deduction, and that not inconsiderable, on account of those in whom the operation ends fatally, whether completed by removal of the ovary or not. The result thus obtained must be compared with the probable duration of life in those patients who receive such relief as can be afforded by the other resources of art. Many years age I saw a female from the north of England who had undergone ovariotomy, as it was reported, successfully, not very long before the time of my seeing her, the operator being Mr. Lizars. It was performed when what was then called the major incision was in vogue—that is, a cut through the parietes from the ensiform cartilage to the pubes, such as we make to expose the abdomen for examination after death. There was a sound cicatrix on the person of this female, indicating that an incision of that description had been made. The pelvic region was occupied by a large solid mass of disease. The comparison I have now suggested must be made between two sets of cases similar in their nature. Ovariotomy is not performed indiscriminately, but in selected instances. The cases chosen for operation are exactly those in which it is the least necessary, the danger to life being remote, and the patients sometimes living for years with only an occasional interruption of health and comfort. Mr. Hawkins has pointed out the important distinction between the simple serous cysts developed in the broad ligament, with their contents of watery consistence, and the more serious disease of the ovary itself, with its multiplied cysts, and their thick, variously-coloured secretions. Two instances of the former kind were under my observation for many years, and I believe that both individuals are still living, although it is long since I have seen them.

Elizabeth L——, a rather tall and well-made woman who had always enjoyed good health, found a swelling in the lower part of the abdomen soon after the birth of her last child, in 1819. It gradually increased for about three years, hardly troubling her except by its bulk, which however had become so considerable in 1823, that relief was absolutely necessary, and I drew off in St. Bartholomew's Hospital a pailful and a half of fluid, of watery consistence and slight whitish opacity. She soon recovered her health and strength, feeling as capable of exertion as at any period of her life, and for nearly two years she thought herself perfectly recovered. She increased in size at the end of this time, and was tapped again with the same complete relief as before. From this time to 1829 she was tapped three times, and did not swell again after the last date. I saw her in October, 1831 in perfect health, and without any abdominal enlargement. She had sometimes experienced an uneasy sense of fulness which was relieved by purgatives. In the preceding winter she had suffered three or four attacks of spasmodic breathing. Since their cessation she had been quite well, and equal to all the exertions which her situation in life required. She had drunk nothing but water. I saw her again in June, 1842. She had lived for the preceding two years at Charlton, in Kent, enjoying excellent health, and free from every trace of her former disease.—I tapped a lady for ovarian dropsy, and let out a few pints of clear fluid. She regained her former size, and considered herself quite free from disease. In four or five years she increased in bulk, and the operation was repeated, a smaller quantity of similar fluid being drawn off. I saw her again in 1842, sixteen or seventeen years after the first operation. She had enjoyed uninterrupted health since the last tapping, and nothing abnormal could be detected in the abdomen on the most careful examination. A statement more remarkable even than those in Dr. Lee's communication has come out in the course of this evening's discussion, having been accidentally elicited, rather than mentioned intentionally. A gentleman, who spoke from the middle of the room has informed us that he had performed ovariotomy twelve times, and had intended to communicate the particulars to Dr. Lee. This list of operations, however, is of little importance, in comparison with the other matter, mentioned subsequently—viz., that in between forty and fifty cases, as I understood him, he had made an opening into the abdomen, in order to ascertain, in cases of supposed ovarian disease, whether the state of things was fit for operation: and having found that it was not, he closed the opening again. He added that not one of these persons had suffered from the proceeding. If we had not heard this report from the operator himself, we might have been excused for feeling some hesitation in giving it credit. To determine whether a diseased ovary, or other abdominal tumour, admits of excision it must be necessary to examine the situation and connexions of the part with the hand, which would require a somewhat large cut through the abdominal parieties. To find that this could be done with impunity in between forty and fifty instances is what we should have little expected. As similar good luck could hardly be expected to attend other patients, I would caution the younger part of the company against imitating the boldness of this operator. The naked statement heard to-night does not enable us to appreciate the affair satisfactorily: we must wait for that promised publication of full details which is necessary to substantiate so novel a report. In the meantime, the simple statement, coupled with the thirty-seven cases of Dr. Lee, affords evidence of difficulties in diagnosis that must be perplexing to the ovariotomist. A gentleman on the left has brought before us another proposal; that of making an incision in the abdominal parietes, and then cutting into the ovarian cyst, for the purpose of establishing a communication with the exterior, to serve as an excretory duct, or, as I think he called it, an oviduct. He is probably unaware that diseased ovaries have been dealt with long ago in various ways more or less similar to this. The result has been, I believe, invariably fatal. Ovariotomy, with all its dangers, has the merit of completely removing the disease. This plan, more dangerous than ovariotomy, would leave the disease behind, lighting up inflammation in the great mass covered by peritonæum, and in immediate contact with the abdominal viscera. Many years ago, I saw attempts of this kind in more than one or two instances: they were all fatal. The discussion of this evening, excited by the important communication of Dr. Lee, will at least serve the useful purpose of admonishing us to pause in the attempts at treating diseased ovaries by surgical operation; and, after seriously considering the matters brought to light by that communication, the forty or fifty cases from another quarter, and the proposed oviduct scheme, to ask ourselves the question whether such proceedings can be encouraged, and continued without danger to the character of the profession.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

GUY'S HOSPITAL.

Warty Carcinoma.

(Under the care of Mr. Cock.)

In the number for May, 1850, of the *Dublin Journal of Medical Science*, there is a valuable paper by Dr. Robert Smith, on the Warty Ulcer of Marjolin, (*Dictionnaire de Médicine* vol. xxi.) The author considers that the "warty tumour of cicatrices," of Mr. Cæsar Hawkins, (*Medico-Chirurgical Transactions*, vol. xix.) is an affection identical with the warty ulcer of Marjolin, and gives very satisfactory reasons for his opinion. Among Mr. Cock's patients we noticed, a short time ago, a woman who suffered from an ulcer exactly answering the description given by Marjolin, and the progress of which proved it to be of that malignant nature which Dr. Smith thinks it possesses. On this head the author says, "The result of my observations of this peculiar ulcer leads me to consider it as a cancerous disease, but I agree with Mr. Hawkins in thinking that it is malignant only in the lowest degree. Dr. Smith is therefore of opinion that there are "but two modes of treatment likely to be attended with success; the entire of the morbid structure must either be removed by operation or destroyed by some powerful caustic." It will be perceived by the sequel, that Mr. Cock found it necessary, finally, to resort to the first of these means. We proceed to adduce a few details of the case, according to the notes taken by Mr. Lacy, the dresser. The patient is a married woman, forty-seven years of age, of pale features, delicate constitution, and troubled with palpitations. She is of temperate habits, and has been accustomed to much walking exercise. Twelve months ago the patient had a scrofulous sore in the left popliteal region, the cicatrix of which has drawn up the integuments into a prominent ridge behind the ham-strings, and flexed the leg. She likewise suffered from abscesses in various parts of her body, and states, that about one year ago a patch of inflamed surface, as large as the palm of the hand, presented itself, without any known cause, on the calf of the leg, and soon afterwards swelling and suppuration followed, leading to a preternatural growth upon the part.

When the patient was admitted, (April 3, 1850,) the tumour projected about an inch from the calf of the leg, and was about four inches long, by three inches wide, with a cauliflower head, and overhanging sides. On slight pressure purulent matter exuded from the growth, and the latter exhaled a very offensive smell. Inflammation had extended along the absorbents upon the inner side of the thigh, the inguinal glands were a little indurated,[*] and the ulcer extremely painful to the touch.

Mr. Cock ordered a tonic mixture, and chloride-of-soda lotion to the leg, and contemplated the amputation of the limb, but the destruction of the growth was first tried to be accomplished in the following manner:—A ligature was applied, which enclosed the whole of this broad excrescence, and with the thread was connected a little screw apparatus, by which it might gradually be tightened. This little operation occasioned some discharge of blood and pus, and excruciating pain. Mr. Cock continued to draw in the ligature daily; granulations soon began to appear, and a thin pellicle projected from the edges of the extensive sore, where the shrivelling tumour exposed it to view. Nineteen days, however, after the application of the ligature, adhesion seemed to take place again between the parts through which the thread had passed, and it did not appear likely that the tumour would be soon removed in this manner, nor that a useful limb would be left after the excrescence had fallen off. Mr. Cock, under these circumstances, proposed amputation, which was performed on the 7th of May, thirty-four days after admission, at the junction of the upper with the middle third of the tibia.

The action of the chloroform upon this patient was of a peculiar description; she inhaled it for about six minutes before the operation, and appeared stupified by its effects, but at the first incision she gave signs of sensibility to pain, and struggled and screamed as loudly as her covered lips permitted. At about the eleventh minute, however, the operation being over, the anæsthesia was complete, the eyelids were partially closed, and she seemed quite unconscious of the taking up of the arteries. At the fifteenth minute, a quick glance announced returning consciousness, the signs of suffering gradually increased, and the patient, who generally bore pain very badly, subsequently stated that she remembered, and had felt, all that had been done. She, however, went on very favourably, and about two months after the amputation the stump was almost completely healed, a small portion of necrosed bone preventing, for a little while, the final cicatrization.

Cancer of the Tongue; Division of the Gustatory Nerve.

(Under the care of Mr. Hilton.)

We lately observed, among Mr. Hilton's patients, a woman affected with malignant disease of the tongue, whose sufferings were so great, that an attempt was made to give her temporary relief by dividing the sentient nerve of the organ. Such direct surgical applications of physiological data afford an additional proof how advantageously anatomy, physiology, and surgery, go hand in hand; and it is very gratifying to notice the anxiety Mr. Hilton evinced of doing something for his patient, in a case which baffled all attempts at permanent restoration. Division of nerves in physiological experiments is frequently performed; it has likewise been practised, with but indifferent results, in tic douloureux, but we are not aware that the division of the gustatory was ever made before, with a view of blunting the sensation of the part, and consequently relieving pain.

Mr. Hilton's patient was a woman, about thirty-nine years of age, who was admitted in February, 1850, with a large excavated, ragged ulcer, with hard, raised, and everted edges, on the left side of the tongue, extending from the junction of the middle with the posterior third, to nearly the tip and the median line. The poor woman suffered much pain in the head and the left ear, which broke her rest; she was likewise troubled with a profuse flow of tenacious saliva, and unable to take solid food, as its passage over the ulcer gave exquisite pain. Mr. Hilton determined to remove the disease by excision; after, however, watching the effects of the actual cautery to the projecting and painful edges of the ulcer, and the administration of conium internally.

But intercurrent inflammation, and the formation of an abscess in the submaxillary region, caused this line of practice to be altered, and Mr. Hilton, thinking that the above described symptoms might be relieved, if the sensibility of the ulcer could be destroyed, and knowing that the operation of sloughing off the diseased parts by the application of ligatures would thus be rendered nearly painless, determined to divide the lingual gustatory branch of the fifth nerve, between the diseased portion of the tongue and the brain.

On March the 20th, the patient was placed in the recumbent posture, but with the head a little raised, opposite a good light, and the tongue being drawn out and steadied by an assistant, Mr. Hilton divided vertically, with a small knife, the mucous membrane, and sub-mucous tissue, for about three quarters of an inch, over the hyoglossus muscle, and above the sublingual gland. The parts were, however, much obscured by the almost constant flow of venous blood into the wound, but by continuing the incision through the upper edge of the sublingual gland, the nerve was exposed. Mr. Hilton took hold of it with forceps and divided it with scissors. All sensation was immediately lost in the anterior part of the tongue on the left side, as well as in the ulcer; and either part could be seized and pinched with the forceps, without the patient being aware of what was being done.

Some pains and inflammation in the soft parts of the face and neck occurred soon after; these were relieved by appropriate means, but the profuse flow of saliva had ceased, and semi-liquid food could be taken into the mouth without occasioning uneasiness. Portions of the ulcer were subsequently separated by ligatures, the operation giving no pain; but it was found impossible to include the whole diseased mass in the threads.

One month after the division of the nerve, the patient regained slight feeling at the tip of the tongue on the left side, the flow of saliva recommenced, and the ulcer became somewhat painful to the touch. Her health being much weakened, a cervical gland enlarged, and the ulceration spreading, Mr. Hilton sent her back to the country, judging that the disease was too far advanced for any more active surgical interference. She returned to Yarmouth, where she died about four months after her discharge from the hospital.

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[*] Dr. Smith says, "It is not the character of the disease to contaminate the lymphatic glands; they frequently become sympathetically enlarged, but I have seen them assume the characters which mark cancerous degenerations in two instances."

By the division of the gustatory branch of the fifth nerve, the sensibility of the ulcer was destroyed for a time, the patient could take food without its passage giving any pain; the excessive flow of saliva was diminished, and the application of ligatures to the ulcer did not occasion any suffering. Mr. Hilton thinks that further experience is necessary to fix the line of practice in cases of this nature, but he considers that the division of the nerve should never be omitted when it is determined to remove the ulcerating mass by the application of the ligature, a process which is known to be extremely useful.

Cases of Acute Rheumatism.

(Under the care of Dr. Barlow.)

Andral, in a letter to Dr. Forget, inserted in the *Gazette Médicale*, says: "Although we doubtless ought to use our best efforts to ground the treatment of disease upon the data which we obtain from anatomy and pathological chemistry, our chief reliance ought not to rest there; we should likewise be guided by the observation of the good or bad results obtained by various modes of treatment in a given number of cases; this course being a kind of empiricism, the application of which is confided to prudent and skilful hands." Being convinced that great utility may be derived from the course advised by the French physician, we are endeavoring to place before our readers the results of treatment in diseases which often come before the practitioner. Acute rheumatism is one of these: here various methods of treatment have been, and are at the present day, advocated. Bloodletting, diaphoretics, colchicum, calomel and opium, purging, quinine, nitre, and lemon-juice have by turns had their strenuous supporters, and one and all of these remedies have certainly, in "skilful hands," yielded favourable results. We have endeavoured to acquaint the profession, from time to time, with the therapeutical applications which we witness in the London hospitals; and we had the pleasure, with this view, of adducing cases in illustration of Dr. Budd's practice in rheumatic fever at King's College Hospital, (The Lancet *ante*;) we now beg leave to bring forward three cases of the same affection, treated by Dr Barlow, where certain saline substances were used with great advantage. For the following outline we are indebted to Mr. Godfrey, the clinical clerk.

The first case refers to a man, aged twenty-six, who was admitted into Job ward, under the care of Dr. Barlow, June 14, 1850. The patient is a strong, plethoric man, with light hair; he has suffered from acute rheumatism several times within the last three or four years, and does not remember that the present attack was brought on by any exposure to wet or cold. This circumstance would lend additional weight to the opinion, that when once the rheumatic or any other diathesis is fully formed, the exciting causes are generally very slight. On admission he complained of severe pain and tenderness in the lumbar region, extending down both legs to the knees, which were swollen and tender, but not very red; bowels confined; pulse 108, full and bounding; tongue furred and soapy. Dr. Barlow ordered an aperient draught, containing fifteen minims of tincture of colchicum; and ten grains of Dover's powder at night. On the next day perspiration was abundant, and the rheumatic inflammation extended to the ankles and toes which became tender, swollen, and red. The heart's action being now examined was found natural, with the exception of a slight systolic murmur heard over the interval between the fourth and fifth ribs, about an inch below the nipple. This patient having so repeatedly suffered from acute rheumatism, and being still young, it may be looked upon as probable that the pericardium was partly adherent, and that the murmur observed depended on valvular changes resulting from previous attacks of endocarditis. Still it is worthy of note that these symptoms were very slight, though at that age cardiac complications are very common. Dr. Watson says on that head: "The younger the patient is who suffers from acute rheumatism, the more likely will he be to suffer from rheumatic carditis."

The patient was now ordered six drachms of lemon-juice, to be taken in sugar-water, three times daily. He was, however, in a couple of days, much worse; the pains were very acute, and the joints along the arms and hands became involved; the pulse rose to 120, full; the systolic murmur was more distinct; the perspiration profuse, very acid, and the urine high-colored. Dr. Barlow, after giving a purgative draught, with wine of colchicum, prescribed a pill, composed of a quarter of a grain of tartar-emetic, half a grain of opium, and one grain of calomel, to be taken every fourth hour. These measures contributed to lessen the pains, and the patient was desired to take the pills only three times a day, with the following draught—half a drachm of acetate of potash, and ten grains of nitre, in camphor mixture. The improvement was very great on the next day; the pills were discontinued, but the mixture persevered in. The favourable impression produced by the salts of potash increased during the next few days; all the symptoms gradually gave way, and ten days after the draughts had been first taken, and regularly continued, the patient was convalescent. He took, before being finally discharged, small doses of iodide of potassium and carbonate of potash, and left the hospital quite well, about three weeks after admission.

The second case is that of a cooper, about thirty years of age, of short stature, red hair, and grey eyes, who is very subject to rheumatism, as he has experienced two attacks, the last of which happened about eighteen months ago. He was admitted, May 24th, 1850, under the care of Dr. Barlow, and stated that he had been suffering for the last eleven weeks with pains in his joints, with occasional swelling. These pains varied in intensity till within a few days before admission, when they grew much worse, the head being affected at the same time. Thus may a chronic inflammation of the joints, by very slight exciting causes, assume the acute and febrile type.

The joint most affected in this case was the left shoulder, though all the other articulations were likewise implicated. Tongue covered with a thick white fur, but moist and profuse acid perspirations. In the cardiac region, a slight systolic bruit was noticed below, and to the sternal side of the left nipple. The patient states that he feels a sharp pain shooting from the heart to the left shoulder, which pain is rendered worse by a deep inspiration. Urine scanty, high-coloured, and loaded with lithates; pulse full and bounding; bowels confined.

It seemed very probable that the aggravated pain in the left shoulder depended principally on the changes which had taken place in the heart, and Dr. Barlow ordered the patient to be cupped to six ounces over that organ. Nearly the same line of treatment was followed in this case as in the preceding, opium being occasionally added to relieve intense pain. The saline mixture again rendered very good service; the pains gradually diminished, the urine and perspiration improved, the systolic murmur became fainter, the pain in the left shoulder and cardiac region disappeared, and the patient, who took warm tonics for the last few days, was discharged in a very satisfactory state, about three weeks after admission. M. Andral brought forward, a short time ago, before the Academy of Medicine, the case of a woman, who died at the Charité, in Paris, with sharp rheumatic pains in both shoulders, she having but lately recovered from a severe attack of pneumonia. M. Andral laid much stress on the fact of pus having been found in these joints; this occurrence is certainly rare, but it may be surmised that the rheumatic inflammation reached the parts surrounding the joints, and thus gave rise to a common event of ordinary inflammation.

Dr. Barlow's third case refers to a girl of twenty, who was admitted June 17, 1850. The patient, who is of middle stature, with dark hair and eyes, and a rather anæmic and anxious countenance, stated that rheumatism is hereditary in her family; but that she had always enjoyed pretty good health until about one year previous to her present illness, when she suffered from debility and irregular menstruation. She had been taken ill only four days ago, when she was seized with pain in all her joints; yet she cannot recollect having been exposed to wet or cold.

On admission, the articulate pains were much increased; the joints swollen and tender, so as to make her apprehensive of the slightest movement; respiration hurried; pulse 100, and compressible; thirst; loss of appetite and sleep; tongue covered with a white creamy fur; urine high-colored, moderate in quantity, with an acid re-action, and not coagulating on boiling. On auscultation, the heart's action and impulse were found regular, but a distinct bruit was heard with the first sound just below and to the sternal side of the nipple; the respiratory murmur was, however, quite normal.

Dr. Barlow ordered a pill composed of a quarter of a grain of tartar-emetic, one grain of opium, and three grains of calomel, to be taken at night, and a purgative draught, with one drachm of colchicum wine, in the morning. The patient was worse the next day, and the saline mixture given in the preceding cases, with a little opium, was prescribed, to be taken three times daily, and ten grains of Dover's powder at night. On the third day the pains in the shoulders were very severe, and the perspirations profuse and very acid. On the fourth day unequivocal symptoms of pericarditis showed themselves; the pain over the region of the heart was intense, and increased by a deep inspiration on pressure, and a distinct rubbing sound was heard; though the systolic murmur was louder, and the most prominent of the two. Dr. Barlow ordered blood to the amount of six ounces to be taken from the region of the heart; the pills to be taken as before, the calomel being reduced to two grains, and the saline mixture continued. Two days afterwards the joints were considerably better, the patient could move them without pain, but the rubbing sound was still heard. The improvement went on steadily, with the exception of restless nights, for which opium was given; but the bruit being rather more distinct on the eleventh day after admission, a blister was applied on the cardiac region, and the rubbing sound ceased entirely, but the systolic bruit persisted. The gums became now affected with the mercury, and some bilious vomiting occurred. The pills were discontinued, some effervescent draughts administered, and another blister applied over the heart, as a slight catch was complained of. On the twenty-third day the abnormal cardiac sounds were no longer heard, and the joints, with the exception of a little weakness in stiffness, were quite well. The saline mixture, which had not been interrupted, was continued for a few days longer, after which the patient being very nearly convalescent, took some warm tonics, and left the hospital, in a very favourable state, thirty-eight days after admission.

The above cases illustrate, in an interesting manner, the correctness of that line of treatment which consists in the close watching of symptoms as they occur: the saline mixture prescribed by Dr. Barlow certainly appears to have produced in each case, particularly in the first two, a decided impression on the disease; its use will certainly be beneficial in "prudent and skilful hands." We are not in the possession of a specific for the treatment of acute rheumatism, but it can hardly be doubted that certain medicaments have a powerful influence over the progress and development of the disease, and among these it would appear that saline medicines take a prominent rank. In the late discussion on rheumatism, at the Academy of Medicine of Paris, unanimity of opinion was not obtained, either on the pathology or treatment of the disease. The best defended lines of treatment were, repeated bleeding, (Bouilland,) nitre, (Bouchardat,) blisters to the joint, (de Chilly,) and sulphate of quinine, (Martin-Solon.)

Gunshot Wound.

(Under the care of Mr. HILTON.)

The peculiarities of gunshot wounds are numerous. Balls, after having struck a bony prominence, or passed through the soft parts, may take a very circuitous and extraordinary course; but, as Mr. Samuel Cooper justly observes, "If we had all the data for our calculations, the seemingly extraordinary course which a ball sometimes takes would be completely explicable by the laws of projectiles." One of the most extraordinary courses a ball can take is to retrace its steps, as it were, and fall out again by the orifice through which it entered. This, as is well known, may occur when a ball drives in a portion of the clothes, which are then inverted like the finger of a glove; and when the extremity of the cone thus formed is not traversed by the projectile, the ball will be brought back again by the tendency of the portion of clothing to resume its original situation. Thus the wound may be found without perforation of clothes and without ball. Such cases must, however, have left considerable doubt in the minds of surgeons before the reason of the unwonted appearances was found out. Nor is this the only way in which a ball may find its way back again out of the body, after having inflicted a wound. Military surgeons have known balls to strike against bony processes, and receive from the same a retrograde impulse, which made them roll back through the track they had made for themselves in the soft parts; such cases have been noticed in particular where the ball came in contact with the spine, when the projectile possessed as yet considerable force, and the wounded man fell on the side of the perforation. Whether some error may not have crept into these accounts we do not pretend to decide, but the manner of explaining the disappearance of balls which have dug a deep track in the soft parts is sometimes very extraordinary.

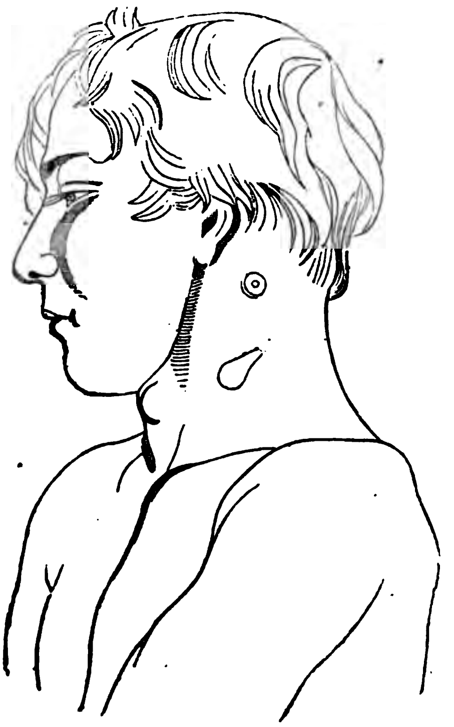
It does not often happen that gunshot wounds are treated in the hospitals of London; still cases here and there occur, principally after accidents or attempts at suicide, and we had occasion to observe one very recently among Mr. Hilton's patients. We were assisted in the particulars of the case by Mr. Aldred, the dresser, who afforded us ample information. Not only is the case interesting from the few instances of the kind we witness in hospital practice, but the absence of the ball gives it an enigmatical aspect, which will forcibly direct the mind of the reader to the strange phenomena connected with gunshot wounds.

The patient is a lad of eighteen, who was endeavouring to gain entrance into the premises of a surgeon at

Peckham, evidently for the purpose of robbing the house. The owner, however, perceiving the attempt, fired at the thief with a pistol, the latter being in a stooping posture, and the former somewhat above, and only a few yards from him, ensuring an oblique direction of the ball.

The lad was struck by the ball, which was about a quarter of an inch in diameter, in the region of the neck; the shock immediately knocked him down, and he lay on the ground for a little while, fancying he had lost the use of his arm. He then rose to take to his heels, though the wound was bleeding, but he was soon secured, the blood stopped by pressure, and the patient conveyed to Guy's Hospital.

On admission, (July 10, 1850,) a perforation, with *inverted* and minutely lacerated margins, about half an inch in diameter, was discovered; it was evidently the result of the entrance of a ball, and situated on the left side of the neck, an inch and a half below the lobe of the ear, just on the posterior edge of the sterno-mastoid muscle.



The boy seemed to have thoroughly recovered from the shock, and he complained of no particular pain, except in the left arm, which he could hardly raise. Mr. Hilton proceeded at once to search for the ball, and the probe passed without difficulty inwards and downwards, about an inch and a half towards the spine, without meeting with any foreign body; thence the track seemed to be deflected under the sterno-mastoid, towards the skin, lower down, and at the anterior edge of the same muscle, at which spot Mr. Hilton made a mark with nitrate of silver. This was done for the purpose of indicating where an opening might be made, to secure the evacuation of pus or any foreign body, as this point might have been much obscured by subsequent inflammation and infiltration of tissues in the neck. It was subsequently ascertained that the patient's neck was bare when the ball struck him, so that it became pretty certain that no portion of clothing had been driven in. The margins of the wound were evidently *inverted*, and some suspicion now arose that the projectile might have lodged somewhere about the cervical spine, as great pain was complained of in the left shoulder, the arm being raised with some difficulty; yet Mr. Hilton did not wish to carry the search further, for fear of producing hæmorrhage. The wound was covered with a poultice, the bowels attended to, and the patient kept quiet.

For the next few days the pain in the shoulder and arm considerably diminished, though raising the arm was rather irksome, and the wound in the neck showed a tendency to close. No abscess was formed, as was feared, though the wound discharged freely; no pain was experienced, and the only uneasiness complained of was some stiffness in the neck. The patient slept well, had a good appetite, his bowels were regular, (the secretions being kept up by mercury with chalk, and rest at night insured by Dover's powder,) but he was rather troubled with headache. He stated that the pain in the arm first extended almost as far as the wrist, but that it now stopped abruptly at the elbow. No unpleasant symptoms whatever occurred for the next few weeks, the wound continued to suppurate, gradually contracted and closed, and the patient was in about a month well enough to be transferred to prison. He has since been heard of, and no change has occurred in his condition. It should be mentioned regarding the pain in the shoulder and arm, that when the patient was struck by the ball, his idea was, that he fell upon the side where subsequently the pain was complained of; this circumstance would of course militate against the supposition that the ball is lodged in the body of one of the cervical vertebræ, and that a portion of the brachial plexus of nerves had been irritated by the presence of the foreign body.

There is some probability that, as we stated before, the ball, after coming in contact with some part of the spine, had recoiled from the obstacle, and found its way back again through the orifice of entrance; though the fact of the edges of the wound being *inverted* are not in favour of this opinion, since it would appear likely that the ball in leaving the body would have caused the margins to be *everted*, changing the aperture of *entrance into one of exit.*

KING'S COLLEGE HOSPITAL.

Excision of the Knee-joint.

(Under the care of Mr. Fergusson.)

We have had occasion to report in this journal several cases of excision of joints, under the care of hospital surgeons, and have thereby endeavoured to add to the mass of facts upon which surgical practice, in this particular respect, is to be founded. Cases of excision of the elbow-joint, and of the shoulder articulation, have already been reported; (see The Lancet, *ante.*) We have now to lay before our readers an operation of the same nature, performed upon the knee, by Mr. Fergusson. The result of the case has not been favourable, but as excision of this articulation has been performed several times before, in this country and in Ireland, and successfully in three instances, we are induced to bring forward Mr. Fergusson's case, in order that it may be added to this knee-joint group, and find a place in the statistical data regarding the subject. It will be seen by the sequel, that the patient's health had been severely tried by several years' suffering; and such a cirumstance is decidedly one of the great drawbacks to the operation. It is, however, extremely difficult to calculate accurately the amount of strength likely to suffice for reaping the benefits of the excision; and herein, as well as in the choice of cases, will, as it appears to us, the chief difficulty be found. We avail ourselves of Mr. Draper's notes, and proceed to give a short outline of the case.

The patient was a strong-made man, aged twenty-one, of a ruddy complexion, a labourer in the country, generally enjoying good health, and was admitted June 29, 1850, under the care of Mr. Fergusson. About three years ago he had a fall upon his knee; this accident led to an inflammation of the joint, which confined him to his bed for nine months; he was treated with blisters and issues, without experiencing much benefit, though afterwards he was able to use his leg in a slight degree. Two months after this little improvement, the joint became again swollen and stiff, and he had much pain in it: nearly the same treatment was adopted, and he was soon sufficiently relieved to continue without surgical treatment for eighteen months. About six months before admission, the symptoms returned with sufficient force to prevent his following his usual occupation; he has since that time been under a treatment of the same kind as on the previous occasions, but was now recommended to submit to amputation, as there was no prospect of relief.

On admission, the knee presented much tenderness on pressure; the circumference of the affected joint (left) was nearly two inches greater than that of the right, the knee slightly flexed, and the patient could not move it. The pain was not considerable when the limb was at rest, but the least motion caused intense agony on the inner side of the joint; the pain was worse at night. The appearance of the patient was pretty healthy, though he complained of great debility. The pulse was rather quick, but the appetite good, and the bowels regular.

Mr. Fergusson gave it as his opinion, that the cartilages of the joint were ulcerated, and ordered the limb to be put into a gutta-percha splint. As, however, no improvement took place, and the patient was anxious that active means should be employed to give him relief, Mr. Fergusson, seeing no hopes of effecting a permanent cure within a reasonable period of time, advised that, instead of amputation, excision of the articular surfaces should be resorted to, as the case seemed to him, in most respects, a favourable one for this procedure.

The patient was brought into the theatre, July 20th, and placed under the influence of chloroform, when Mr. Fergusson began the operation by making an H incision in front of the joint, the transverse line running a little below the patella. The extensor tendon was then dissected upwards, and raised with the patella like a lid, by which means the articular ends, entering into the formation of the joint, were brought into view. The ligaments were then divided, the soft parts detached from round the bones, one inch and three-quarters of the lower end of the femur, as well as the head of the tibia for about three-quarters of an inch, were sawn off from before backwards, and the sharp margins of the bones pared down with the forceps. Mr. Fergusson then cut out the patella from its ligamentous attachment; several vessels were secured, and the lines of incision brought together by points of suture. Water-dressing and a roller were subsequently applied round the joint, and the patient removed to bed, where the leg was kept extended with a pillow under the ham.

Mr. Fergusson remarked that the patient had experienced so much suffering and annoyance from the affection of the knee, that he had come into the hospital to undergo amputation. But Mr. Fergusson had long thought that excision of the knee-joint had not received sufficient attention in this country, and had resolved to put this method into practice when a case calculated for such an operation should present itself. He considered that it was cruel to remove a healthy leg and foot, as was seen in this instance, when means might be employed to save these parts. That the disease of the joint was sufficient to warrant surgical interference was now clear, for there was no vestige of cartilage left. The operation that had just been performed had been undertaken six times in these countries; twice at Liverpool by Mr. Park, twice in Dublin by Sir Philip Crampton, and twice also in Edinburgh by Mr. Syme. Out of these six, three had been successful, and in two of those which had been unfavourable, the failure did not immediately owe its origin to the operation itself.* Mr. Fergusson, therefore, thought that we had not sufficient reason for abandoning the operation, and that the condemnation of some surgeons who had not much experience in excision of bones should not weigh against its revival; he had been anxious to bring the operation again before the profession. His mode of procedure had been exactly the same as that followed by Moreau and Sir Philip Crampton.

A little bleeding occurred in the afternoon, which was arrested by cold water and ice, and the limb was then placed into a fracture-box with hinged sides and a foot-board; a cushion being placed under the upper end of the tibia to keep it in apposition with the end of the femur, and water-dressing with the many-tailed bandage, were applied. Pulse quick and feeble. Morphia three-quarters of a grain.

On the third day after the operation the patient had severe rigours, much fever, and complained of pain in the head; the transverse incision had united by first intention, and the sutures of the internal were taken out to favour the escape of the discharge. On the fifth day the wound looked languid, and did not present any granulations; the end of the tibia might be seen in the wound, of an ash colour, and when the leg was raised the ends of the bones were heard grating against each other. The patient continued to have severe rigors, for which he was administered full doses of sulphuric ether, and the wound, the discharge from which was of a sanious character, was dressed and washed out with myrrh lotion. On the seventh day a very favourable turn took place; the rigors ceased; the countenance was less flushed and anxious; the pulse, which had been quick, feeble, and compressible, improved; the patient passed a good night; his appetite returned, and he expressed himself as feeling very comfortable. The wound looked much more healthy; granulations were springing up on both sides, and the discharge assumed a more healthy character. The only unfavourable symptom was a threatening of diarrhœa, for which decoction of logwood was prescribed. This state of things did not, however, last long. On the eight day rigors came on again; the patient was bathed in cold perspiration; blood was found in clots beside the wound, but the hæmorrhage was easily stopped by the application of ice. Delirium came on, with frequent, loose and black, alvine evacuations, and the patient sunk on the ninth day after the operation.

On the post-mortem examination, all the viscera were found perfectly healthy; the veins were traced up to the heart, and were quite sound. The periosteum of the end of the femur could be stripped from the bone with great ease, and the bone itself was found, for the length of three inches, in a state of acute necrosis; the cancellated structure being full of pus, and the tibia for the distance of nearly two inches was in the same condition. Nothing was found in the intestines to account for the diarrhœa, excepting a small vascular patch in the colon stained with logwood.

Complicated Stricture of the Urethra, and Fistula in Perinæo; the Urethrotome.

(Under the care of Mr. Fergusson.)

Mr. Fergusson has lately discharged from his wards a patient, whose case presents unusual interest, as, besides the extraordinary lesions which his urinary organs had suffered, two modes of overcoming stricture were used for his relief—one about which the profession are not agreed, and the other of a novel description, devised by Mr. Fergusson.

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* M. Maisonneuve, of Paris, performed the excision of the knee-joint a few months ago; the result was not successful.

The patient is a man, aged twenty-five, a native of Lincolnshire, who always enjoyed good health, until, about two years ago, when he met with the following accident:—Whilst on board ship, following his trade of carpenter, he fell astride across part of the rigging. He at first suffered great pain in the perinæum, but it ceased in three or four hours, and slight swelling succeeded it. He continued, however, in pretty good health, and was able to attend to his work for a full month after the accident; but at this time the pain increased, and he was suddenly seized with retention of urine, which, according to his statement, lasted *ninety-eight hours;* his bladder was then punctured from the pubis, and the urine drawn off. A canula was left in that viscus for about six months, and during the whole of this time he only passed a few drops of urine *per urethram.* Soon after the perforation of the bladder a leech was placed on each side of the artificial opening, and two months afterwards urine flowed through both leech-bites. The fistula resulting from the bite on the right side healed in a twelvemonth; but urine was still flowing from the one situated on the left when the patient was admitted. It would appear that an incision was made into the perinæum at the same time that the bladder was perforated above the pubis, and urine had continued to escape through the wound in the perinæum also up to the patient's admission into the hospital.

The perinæal fistula, when first examined by Mr. Fergusson, presented an opening with an irregular margin, situated quite at the anterior part of the raphé. It was very tender to the touch, the patient being always obliged to sit upon one ischium at a time. The second fistulous orifice was situated in the left iliac region, about an inch and a half above, and internal to, Poupart's ligament. Thus, when the patient made efforts at micturition, the urine passed, more or less imperfectly, through three apertures; the meatus urinarius, and the two above-mentioned fistulous openings. The poor man had been under treatment for a considerable period at Hull, and had come to London for further advice; he was in a very feeble state of health, pale, emaciated, and weak. After he had had proper rest, Mr. Fergusson attempted to pass a catheter, but an insurmountable obstacle offered at about two inches and a half from the meatus. It was therefore advisable to procure a free outlet for the urine in the perinæum, so that the parts above might gradually be brought to a normal state; and as it was found impossible to pass an instrument into the bladder through the perinæal fistula, Mr. Fergusson resolved to divide the urethra in front of the anus. For this purpose, the patient was brought into the theatre, April 21, 1850, and laid on his back upon the table.

Before he was tied in the position for the operation of lithotomy, Mr. Fergusson made several attempts with a probe and flexible catheter, to reach the bladder through the perinæal fistula, but as he could not succeed, the patient was forthwith tied up, and placed under the influence of chloroform. A staff was introduced into the urethra through the meatus, as far as the sinuosities and co-arctation of the canal would allow, and Mr. Fergusson made an incision along the raphé, commencing about half an inch behind the root of the scrotum, and terminating about one inch from the verge of the anus. After the muscles and fasciæ of this region had been divided in the same direction, Mr. Fergusson cut vertically into the urethra, after which a short elastic catheter introduced into the wound passed with great ease into the bladder.

But an obstacle of a very unexpected description prevented the instrument from at once gliding along the urethra. Whilst Mr. Fergusson was introducing the flexible catheter, he felt the instrument arrested by a rough body; this circumstance at once suggested the idea of a calculus being lodged in that part, and such a complication might well have deranged the whole plan of the operation. But Mr. Fergusson, making use of the scoop, succeeded by gentle traction, in bringing to the surface the object which lay in the canal, and which proved to be a small calculus of a dark colour, irregular form, and the size of an almond, which lay in front of the membranous portion of the urethra. It had very much the appearance of a piece of bone, riddled in all directions from the passage of urine through it. The stone was very soft, and consisted of a triple phosphate and lithic acid.

There had not been any symptoms of stone, and Mr. Fergusson thought that their absence was owing to the calculus lying in a pouch, formed by the urethra, in the perinæal region. When the catheter was introduced through the perinæal aperture, the urine flowed very freely through the instrument; but Mr. Fergusson mentioned, after the patient was removed, that very possibly the catheter had merely reached the above-mentioned pouch; this was a very exceptional case, and it could hardly be said to what exact extent the urethra had been divided, but considerable progress had now been made. Mr. Fergusson added, that the urine now passed very freely through the catheter, and that the next step would be to divide the stricture lying in the anterior portion of the urethra. This case was one of a very unusual nature, and the surgeon had no choice, as a first step towards the cure, but to cut through the neck of the bladder, and pass a catheter into that viscus. The patient was carefully attended to for the next few weeks; the urine passed mostly through the perinæal aperture, and the fistulous opening of the pubis very nearly cicatrized.

Mr. Fergusson now tried to overcome the anterior stricture by the application of potassa fusa, a small particle of which was carried down to the strictured part on the end of a bougie. After this operation was repeated several times, the pubic aperture almost healed up, and Mr. Fergusson attempted to pass No. 1 catheter through the stricture, but ineffectually. A gum-elastic, catheter was, however, again passed into the bladder, by the aperture in the perinæum, and kept in for half an hour, or three quarters, at a time, so as to prevent the orifice from closing. The pulse was at this period weak, the appetite bad, the tongue pretty clean, and the sleep tolerable. On the 30th of May, about six weeks after the first operation, the patient was again brought to the theatre, when Mr. Fergusson, after the man had been tied as for the operation of lithotomy, proceeded to use the urethrotome.

This instrument is composed of a deeply-grooved director, about seven inches long, supplied with a handle, and a smooth rod, likewise supplied with a handle, at the end of which is a narrow-bladed sharp bistoury, about one inch in length, which glides within the groove, and is buried in it. The director was, in this case introduced into the urethra, carried as far as the obstruction, and the bistoury which corresponds in breadth with the depth of the groove was passed along it, and made to divide the stricture, by gently moving the handle. This first step allowed No. 2 catheter to pass, which was left in the urethra for three hours; this, by gradual efforts, during a few weeks, was brought to No. 5. The urethrotome was now again used, and Mr. Fergusson passed No. 8, which was easily introduced, and left in the bladder. This having been accomplished, the patient, who had been rendered insensible by chloroform, was removed, with the catheter secured in the urethra, and Mr. Fergusson stated, in some remarks which he made after the operation, that of the divisions of stricture either within or without the urethra, the first was certainly best known. Mr. Stafford's instrument, which had been contrived for the purpose, had some disadvantages, and had never been fully adopted by the profession, many members of which do not know it at all. Mr. Fergusson had been originally led to use, in strictures situated near the meatus, an instrument pretty similar to the present; at that time, however, he was content with a simple director and common bistoury. Now, with this improved instrument, the bistoury could be passed along the groove without being seen, and the extent of the section to be made could be easily regulated. Still, as the director is straight, it can only be used in front of the turn which the canal makes around the pubis; but, by its means, catheters of a large size would be admitted into the urethra, and, being secured there, would contribute largely to secure the permanent dilatation of the passage. He (Mr. Fergusson) considered, that the urethrotome was a great improvement in surgery, and he had much pleasure in bringing it forward.

The further progress of the patient was as favourable as circumstances would allow. He was kept very quiet, and the catheter remained in the bladder; so that both fistulæ were placed in the best circumstances for cicatrization. The upper one healed perfectly, and that of the perinæum appeared to contract. Before, however, it was quite closed, Mr. Fergusson thought it advisable to allow the patient to recruit his health by leaving the hospital and seeking the country air. He was therefore discharged, about four months after admission, with the fairest hopes of ultimate recovery.

The fact of the urethrotome rendering an impassable stricture at last permeable to No. 8 catheter, is certainly of great value: the use of the instrument is so very simple, the pain it inflicts so trifling, and its beneficial effects so rapid, that it is likely to take a prominent rank among the instruments intended to overcome obstinate and cartilaginous strictures of the urethra.

ST. THOMAS'S HOSPITAL.

Acute Albuminuria; Absence of one kidney.

(Under the care of Dr. Risdon Bennett.)

Though our means of diagnosis have of late years been multiplied and perfected, we may now and then waver as to the precise nature of certain diseases and among these *dropsy* may be mentioned; though, strictly speaking, dropsy is more properly a symptom than a disease. Renal and cardiac dropsy, and accumulations of serous fluid, resulting from some obstruction to the circulation of the blood, are in general recognised by a careful examination of the patient; but the cause of what has been called inflammatory dropsy is seldom so evident.

That acute dropsy is mostly the result of a sudden check to the excretion of water from the economy is extremely probable; and as such a change in the distribution of the fluids of the system is likely to cause much constitutional disturbance, the term febrile dropsy, as advocated by Dr. Watson, seems to be very appropriate. Such a case of febrile dropsy has occurred among Dr. Bennett's patients, and as the post-mortem examination has not only shown traces of fatty degeneration in the renal organ, but has likewise brought to light that one kidney was entirely absent, the case assumes a peculiar interest, both as regards the relation between Bright's disease and febrile dropsy, and the effect which the deficiency of one of the kidneys may have upon these affections. We proceed to give a brief sketch of the case from the notes taken by Mr. Complin, the clinical clerk.

The patient, a well-developed lad, thirteen years of age, but of a rather scrofulous aspect, was admitted into Jacob's ward, in October, 1849, under the care of Dr. Bennett. He stated that a fortnight before admission he had the imprudence, whilst profusely perspiring, to plunge into the river, with several of his companions, and while in the water he cut the heel of his left foot, with a sharp stone. The wound bled profusely, and leaving the water, he sat upon the bank of the river, without his clothes, whilst his little friends ran for assistance. Hæmorrhage continued unabated in the meanwhile, and the boy was getting very faint, when he was at last taken home, put to bed, and attended to.

He appeared very well until the third day after the occurrence, when he complained of slight cough, and began to suffer from the symptoms of common catarrh, noticing, at the same time, that he did not pass as much urine as usual. This state of things went on until about the seventh day after the accident, when a puffiness about the cheeks, just under the eyes, was observed; the patient's feet likewise swelled; and, on the fourteenth day, the abdomen became tumefied, a sense of tightness and constriction across the chest being complained of. The urine, during this period, was scanty, thick, and high coloured, and the patient was troubled with severe pains in the lumbar region.

When admitted, the anasarca was fully developed, particularly about the face and trunk; ascites was also present, with dyspnœa, cough, and profuse bronchial expectoration. The decubitus was dorsal; the pain greatest in the *right* lumbar region; the urine scanty, of dark colour, albuminous, slightly acid; specific gravity 1017. The tongue was pale; pulse 85, rather hard; the bowels open, and the appetite unimpaired. Here was evidently a case of genuine febrile dropsy with albuminous urine, not unlike what takes place in the anasarca which may occur after scarlatina; there could, in fact, be no doubt concerning the sudden check which the functions of the skin had experienced; the history was sufficiently clear.

Dr. Bennett ordered a full dose of compound jalap powder every morning, and appropriate doses of antimonial wine, spirit of nitrous ether, and tincture of squill in camphor mixture, every six hours. The patient became, however, very drowsy; the abdomen, which had receded a little, filled again, and the pain in the hypogastric region was very distressing. Vomiting and dyspnœa came on, and the urine threw down a thick, albuminous precipitate on the addition of nitric acid. The loins were now cupped, and elaterium in combination with calomel and colocynth, administered. These remedies, aided by various diuretics and iodide of potassium, gave the patient considerable relief; the anasarca diminished, and the urine (though still very albuminous) increased. But this favourable turn did not last long; the patient who had always been very drowsy, fell into a comatose state, convulsive fits came on, and though a few fluctuations occurred in his state, it was evident that he could not survive, and he expired in a comatose state about six weeks after admission.

On a post-mortem examination, conducted by Mr. William Adams, Demonstrator of Morbid Anatomy to the hospital, the viscera of the head and chest did not present any important alterations; the peritonæal cavity contained a gallon of clear serum, the peritonæum itself being healthy. The right kidney was twice the natural size, and very pale; the capsule separated readily, the surface was smooth, and the secreting structure itself was not so extensively damaged as might be expected; in the tubuli uriniferi a small quantity of fat was found. The supra-renal capsule on the left side was of the usual size, and healthy in its structure, but the left kidney was entirely absent; no vessels or ureter existed.

and there was no opening into the bladder on the left side. This viscus was, however, perfectly healthy; the testes normal; and the intestinal canal in a sound condition.

Though the absence of one kidney seems at first sight a coincidence of some importance, it is very probable that this abnormal condition had not a very marked influence on the outset or progress of the malady, though the question is still open, whether this organ was double the ordinary size, merely in consequence of the deficiency on the other side, or whether the fatty degeneration was concerned in the hypertrophy. Experience has fully proved that Bright's disease may take place at all ages; still it would appear that in the young the *cause* is generally of a more distinct character, and it seems clear, that in this instance the onset of the disease was connected with sanguine congestion of the kidney, which gave rise to the febrile anasarca, and that the pathological changes in the renal organ noticed after death were so many steps towards the alterations which constitute the chronic form of the disease. Whether the patient would have outlived the acute attack if there had been two kidneys must, of course, remain doubtful, though it may be conjectured, considering the admirable resources of Nature, that the large single organ fully supplied the place of a second kidney.

The appearance of the parts after death clearly showed, that had the patient lived, the chronic disorder would, as Dr. Watson expresses it, have remained as "a legacy, left by the more severe and acute form." As to the condition of the kidney, it seems to point to that form of fatty degeneration which Dr. George Johnson calls the second form, in his article on the subject in the "Cyclopædia of Anatomy and Physiology." We conclude by quoting Dr. Johnson's words, for the benefit of those of our readers who may not have the book at hand:—"The second form of fatty degeneration of the kidney differs from the first in having combined with it more or less of the changes characteristic of desquamative nephritis. The cortical portion of the kidney is soft and pale, and interspersed with numerous small yellow specks. The kidney is generally enlarged; sometimes it is even double the natural size. On a microscopical examination, the convoluted tubes are found filled in different degrees with oil, some tubes being quite free, while others are ruptured by the great accumulation in their interior.

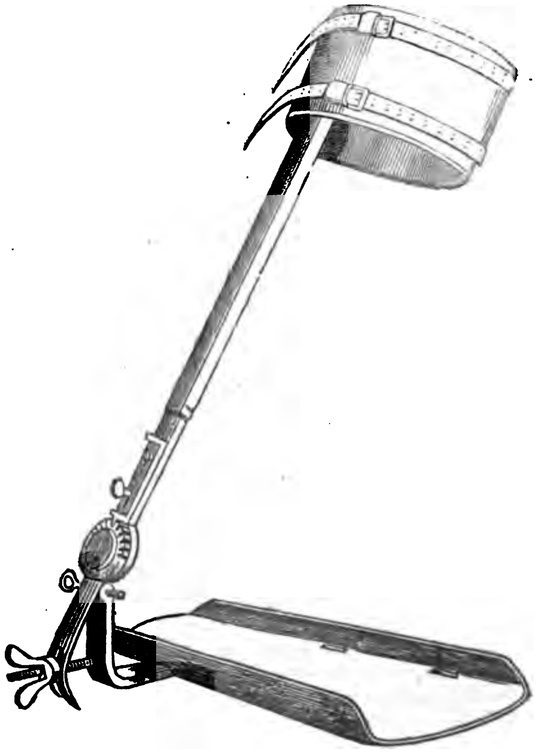
Talipes Varus: New Form of Apparatus for Extension after Operation.

(Under the care of Mr. Le Gros Clark.)

For several months past, we noticed among Mr. Le Gros Clark's patients, a little girl, wearing a peculiar apparatus for extension, upon whom Mr. Clark had divided the tendo-Achillis, to remedy congenital talipes varus. He was kind enough to direct our attention to the case, and we have much pleasure in offering to our readers the following details, with a representation of the new apparatus used on the occasion.

The patient, Mary R——, aged fifteen, was admitted into St. Thomas's Hospital, under the care of Mr. Le Gros Clark, in November, 1849. The case presented an illustration of that extreme form of talipes varus in which there was not only entire inversion of the foot, but where it was also turned over so that the plantar region was directed upwards, whilst the dorsal surface of the tarses rested on the ground, (talipes dorsalis of some authors.) A large bursal pad was developed in the latter position, and progression performed with great awkwardness and difficulty. The whole limb was shrunk, especially below the knee, and the foot shortened and curved upon itself, the toes overlapping each other. The deformity was congenital.

Shortly after the patient's admission, Mr. Clark divided the tendo-Achillis in the usual position and manner, and the foot was put up loosely in Stromeyer's apparatus. The inconvenience and imperfection of the latter became very conspicuous in this case at a very early period, for it occasioned considerable pain up the leg, and vesications on the toes, dorsal surface of the tarsus, and heel. This induced Mr. Clark, who had felt dissatisfied with all the mechanical forms of treatment which had come under his observation, to consult with the instrument-maker to the hospital,* in order that an apparatus might be constructed, in itself more simple, efficacious, and easy of management, and, at the same time, less irksome to the patient. The following description of the instrument, which was immediately manufactured for, and first used, in this case, was supplied by Mr. Milliken, Mr. Bigg's intelligent foreman in St. Thomas's-street, who superintended its construction.



"The instrument is intended for talipes equinus, valgus and varus, and consists of a leg-piece, with circular strap, to pass round the leg under the knee, an ankle-joint, forked extremity, and foot-piece. The joint at the ankle allows of the foot being placed at any angle; the upper part of this joint is cut in cogs, and a sliding catch is attached to the leg-piece, which fits into the cogs, and secures the foot when the toe is raised. Immediately below the joint is a hinge, which allows of the foot-piece being detached at pleasure. The under part is attached to the latter, and is furnished with a nut and screw, playing in the forked extremity. The foot-piece has a ridge at each side to confine the foot, and five long holes cut in it—viz., one at the heel, and two at each side, in which the strapping is to be secured. Detach the foot-piece, and strap the foot down to it, in as straight a position as possible, and over the strapping (adhesive plaster) place a roller, leaving the portion for the hinge free. Now apply the leg-piece, and put the hinge together, letting the foot take its own position. Gently twist the affected foot with the hand, but not so as to give pain, and screw the nut so as to keep it firm. Then raise the top of the instrument in the same way, and secure it by the latch. Examine the strapping, and snip it with a pair of scissors where it would be liable to cut. The instrument should be attended to daily."

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* Mr. Bigg, of Leicester-Square and St. Thomas's-street.

This instrument was prepared, and ready for application, on the fourth day after the operation. Before applying it, a broad and strong band of the plantar fascia was freely divided, by which the antero-posterior curvature of the foot was at once relieved, so that it could be placed flat on the foot-piece of the new apparatus.

The instrument was worn, without inconvenience to the patient, for a lengthened period; and the blisters on the toes, heel, and tarsus, speedily healed. It was necessary once to intermit its use for a short time, in consequence of the patient suffering from chilblains in very cold weather. The screws were almost daily slackened from an early period, to allow of the employment of passive motion: and thus, some ground was gained in effecting the requisite extension of the ankle-joint.

When the apparatus was left off, a boot, with an iron support extending up the leg, was substituted. The patient was soon able to walk, but everted the foot, whilst the knee was inverted: and though the foot was planted quite flat on the ground, it was *thrown out*, at each step, just as paralytics walk. In fact, it was evident that the extensors of the toes and flexors of the ankle were quite powerless; and no motor influence had been regained over them when she left the hospital, early in June, though the position and shape of the foot were natural.

Mr. Le Gros Clark remarked respecting this case, that it offered an interesting illustration of the remediability of an extreme form of distortion, by the application of a suitable apparatus after operation. But he attached much importance to the employment of daily passive motion, after the expiration of, at most, the first week: at the same time that he deprecated continuous extension, which was painful to the patient. Indeed, passive motion is much more effective in procuring the same result, with infinitely less risk and suffering to the patient. He observed that it must be a subject of speculation, whether the paralyzed condition of the tibialis anticus, and extensors of the toes was itself the cause of the deformity, or a consequence (from continued extension) of the retroversion of the foot. Time will prove this, as the latter defect will probably be eventually remedied, in part, if not entirely; but if this be defect of original nervous organization, it will be permanent.

WESTMINSTER HOSPITAL.

Inveterate Stricture of the Urethra treated without Operation.

(Under the care of Mr. Holt.)

In laying before our readers faithful reports of the surgical practice of the hospitals of London, we have had frequent opportunities of adverting to the treatment of stricture. We need not recapitulate the various methods which are in the present day advocated by different surgeons in obstinate cases of stricture of the urethra; the potassa-fusa, internal section, perinæal section, &c. &c., have been by turns so loudly extolled that the profession are fully acquainted with these plans of treatment. But the old and effectual method of gradually dilating the narrowed canal should likewise obtain a full share of attention, and we have no doubt, if we judge from the success which Mr. Holt has obtained by gentle and patient dilatation, that this mode of remedying stricture is of great value. We proceed at once to adduce an outline of the cases thus treated by Mr. Holt.

Edward G——, aged fifty-nine, a tall and formerly a very robust man, was admitted March 26th, 1850, under the care of Mr. Holt. He has had three attacks of gonorrhœa; the two first averaging a period of two months, but the last of longer duration, attended with severe scalding and protracted discharge. Fifteen months after the last attack he noticed an appreciable difference in the size of the stream during micturition; he was also compelled to pass urine more frequently, and the evacuation of the contents of the bladder occupied a longer period than formerly. He neglected these premonitory symptoms until they had existed for six months, when, after committing an excess, he was attacked with retention of urine, for which a No. 3 catheter was passed with considerable difficulty, but with immediate relief. Although cautioned of the necessity of undergoing the necessary treatment he neglected himself, and found, after a further lapse of nine months, that he could only pass urine in the smallest possible stream, and occasionally by drops. The urine was loaded with mucus, and his health began to fail. He then placed himself under medical superintendence, but only continued for a limited period, the greatest size then attained being a No. 2 sound, which, from his account, it is extremely probable never entered the bladder at all. The stream became again of the smallest size, and for the last twelve years has passed guttatim; in fact, to use his own expression, *the water was continually running from him, saturating his clothes, filling his boots, and compelling him to give up his employment of attending to the steamboats at Hungerford pier.*

Upon admission, Mr. Holt desired that the bowels might be cleared with castor oil previous to the introduction of the catheter: this was attended to, and a No. 1 catheter was attempted, but it was found impossible to pass it more than half an inch from the meatus; it there entered a constricted portion, but was so firmly grasped as to defy all attempts at progression. The catheter was allowed to remain for half an hour. Three days afterwards the instrument was again introduced, but only proceeded as far as before; yet, by the most persevering efforts, at the expiration of one month, a No. 1 catheter entered the bladder, and was allowed to remain. The size of the catheters were gradually increased until No. 8 could be passed with facility; it was then withdrawn for an hour, and reintroduced on the next day. The instrument was allowed to remain out two hours, and on the third, three hours, so that in a few days it was only necessary to pass the same size once a day. After a further expiration it was passed every other day, and at the end of a fortnight increased to No. 9. This was shortly exchanged for No 10, and the man now passes his urine as freely as ever; is not compelled to get up in the night, or empty the bladder more than three or four times in the day. The sediment in the urine has entirely subsided, and he is rapidly gaining flesh and strength.—Previous to his affection of the urethra he weighed fourteen stone six pounds, but on admission had decreased to ten stone four pounds.

Mr. Holt considers that in the treatment of this case no operative procedure would have been justifiable, the stricture being of a cartilaginous character, and extending from about half an inch from the meatus to the neck of the bladder. Mr. Holt has never had a case (although a great number come under his care) where it has been necessary to perform any other operation than the gradual introduction and increase in the size of the catheter or sound. He believes that when patience and the most gentle means are had recourse to in the treatment of stricture, no case is impassable, or will not yield to the treatment by dilatation; and that the disease will not recur any more frequently (if so frequently) as when operative procedure is employed. The most Mr. Holt considers it necessary to inculcate is the reintroduction of the catheter once or twice a year, and this is more as a precaution, and to satisfy the surgeon that the canal remains patulous.

The next case refers to a patient who suffered from a stricture of twenty-six years' duration. He is fifty-two years of age, and was admitted May 7, 1850. This man had three attacks of gonorrhœa, averaging two months' duration, and not attended with severe inflammatory symptoms; twelve months after the first attack he experienced difficulty in micturition, and his urine was propelled in a forked stream. His bladder became irritable, the efforts to relieve that viscus were very frequent, and the stream considerably diminished in size, yet he neglected to seek professional assistance until compelled by retention of urine. It was then found impossible, by the gentleman under whose care he was, to overcome the obstruction by the introduction of the catheter. Opium and the warm bath were had recourse to, and with apparent benefit, for he passed a small quantity of urine. The urethra, however, gave way in the course of the next day, and the penis, perinæum, and scrotum became the recipients of the infiltrated urine. Free incisions were made for its escape, poultices applied, and a stimulating plan of treatment adopted; in the course of two months, the man's health, which had been materially interfered with, became improved, but all attempts to introduce the catheter were futile, and he was recommended to go into the country for a short time. Upon his return, finding himself but little improved, and having two fistulous openings in the perinæum, he was admitted under the care of Mr. Holt.

The same preparatory treatment was adopted in this case as in the former, and at the expiration of two days an attempt was made to introduce the No. 1 catheter. It entered the stricture, but could not be passed into the bladder, and Mr. Holt was content, upon a first trial, with having brought the point of the instrument within the orifice of the stricture, the urethra being of the most irritable kind. No further interference was had recourse to until the expiration of three days, when the same instrument was again introduced, and with somewhat better success. Upon a third trial it passed the first obstruction, but became entangled at a second. This latter was, however, after three weeks' perseverance, (only the most gentle means being used,) overcome, and the instrument glided into the bladder. A sound, instead of a catheter, having been introduced, it was necessary that it should be withdrawn, and as it was not desirable to create too much irritation by a second passage of the instrument, no further attempt was made for three days, when, after considerable difficulty, a gum-elastic catheter was introduced, and secured in the usual manner.

The difficulty had principally arisen in consequence of the flexibility of the instrument employed, it not being sufficiently firm to be accurately guided along the canal. The catheter was allowed to remain two days, and having become perfectly loose, was removed, for the purpose of introducing a larger one; but in this, as happened in some other cases, the larger instrument would not pass, and sooner than create undue irritation, Mr. Holt preferred leaving the catheter out, and proceeding in the ordinary way, by gradual dilatation, and beginning at the lowest number. The same sized instrument was again introduced, after a short interval; and about six weeks after the first introduction into the bladder, No. 8 passed with facility. The fistulous openings are rapidly healing, the man's appearance and general health are materially improved, and he passes his urine in a good stream.

Mr. Holt, in some remarks which he made on these cases stated, that with regard to Mr. Syme's advocacy of dividing a stricture, through which a catheter can be passed, he considered that in 999 cases out of a 1000 this operation is not only unnecessary, but perfectly unjustifiable. Mr. Holt has never seen or had a case under his own care, through which he could not get an instrument; and having passed it once fully through, he could proceed, with occasional interruptions, until a sound, the natural calibre of the urethra, was easily admitted into that canal. Mr. Holt thinks that if patients and surgeons will not have the *patience* to overcome the manifold difficulties in the treatment of stricture, the latter will of course operate; but as he considers the same end may be obtained by much less objectionable means, he never would advocate an operation that must necessarily be attended with considerable danger. Mr. Holt thinks Mr. Syme's statements quite correct, with regard to the case mentioned by that gentleman, where a catheter was retained in the bladder, until No. 8 could be passed with facility, and then withdrawn, the patient in a few days being as bad as he was before; but if Mr. Syme had gradually left off the introduction of the catheter, as Mr. Holt did in the first of the above-mentioned cases, he (Mr. Holt) would venture to assert that no such result would have taken place, but that the patient would, after three weeks or a month, have been enabled to have a larger size passed, instead of recurring to his original condition.

LONDON HOSPITAL.

Dislocation of the Head of the Femur into the Thyroid Foramen.

(Under the care of Mr. ADAMS.)

That comparatively old dislocations of the hip are extremely difficult of reduction is generally allowed; it is, therefore, advantageous to all parties concerned that accidents involving the hip-joint should fix the surgeon's attention in an especial manner, that in particular instances the nature of the injury may be, if possible, accurately ascertained. It would appear that in the case under the care of Mr. Adams the dislocation of the femur was at first overlooked, and it will be seen how much eventual trouble this oversight entailed upon the surgeon.

Very recently we were kindly shown a case by Mr. Dixon, of St. Thomas's Hospital, which illustrated in a a forcible manner the lamentable results of hasty diagnosis in accidents about the hip. Here was a patient with the head of the femur firmly fixed on the dorsum ilii, whose lameness was of course beyond rectification, the displacement having originally been mistaken for fracture of the neck of the thigh bone. The error was mainly due to the fact of the patient, though young, being quite grey-headed. Age ought certainly to have its due weight in diagnosis; but this case shows plainly that we should not trust to appearances, and principally rely on the changes of form and relative position of bony prominence in determining the nature of injuries about the hip.

Mr. Nélaton (Elémens de Pathologie Chirurgicale) considers dislocation of the hip as *rare*, and accounts for the seemingly great number of cases we possess to the attention which every individual one generally attracts; and he very justly enumerates the causes which prevent frequent dislocation of that joint: 1, the depth of the cotyloid cavity; 2, the strength of the capsule; 3, the resistance of the muscles which are grouped around the joint, and tend to keep the articular surfaces in apposition; 4, the obstacle which the limb, on the other side, offers to forced abduction. The strength of the femur and ilium, which are not easily fractured, and the long lever afforded by the leg, are, however, clearly favourable to the displacements.

In Mr. Adam's case, the head of the bone was thrown upon the obturator externus muscle—a displacement which is in general easily recognised, but the nature of which was in this instance not determined at once, owing to certain peculiarities which will appear in the sequel. Mr. Bell having obligingly put his notes at our disposal, we proceed to give a sketch of the case.

The patient is a strong and healthy railway labourer. was admitted May 27, 1850, under the care of Mr Adams, with dislocation of the femur into the thyroid foramen of thirty days' standing. The man states that he was excavating in a cutting on the Great Northern Railway, when three or four cwts. of earth fell directly upon his hip, from a height of six feet, whilst he was using his pickaxe, standing with his legs apart, and the body leaning forwards. The blow knocked him down, and he was much stunned at the time; he was, however, immediately conveyed home, a distance of two miles, and a surgeon sent for.

The latter examined him, and found a laceration of the perinæum, which was attended to, and the dislocation overlooked; cold lotions were ordered to the thigh and hip, and the patient desired to keep quiet in bed. He was seen several times by the surgeon before any suspicion was raised as to the nature of the case: but the dislocation was finally detected, twenty-nine days after the accident, and of course immediate attempts at reduction were made. These endeavors were, however, unsuccessful, as well as those made the next day with the aid of chloroform, as it would appear that the extension was made in the axis of the limb, a proceeding ill calculated to obtain reduction.

On admission, the cuticle was found extensively detached about the perinæum and knee, where extension had been made. When the patient assumed the recumbent posture the following symptoms presented themselves:—The foot corresponding to the dislocated hip was everted, widely separated from the other leg, and there was inability of bringing the knees into contact. The trochanter could not be felt; flattening of the nates was apparent, and there was also a trifling fulness of the groin. Upon measuring from the anterior superior spinous process of the ilium to the lower border of the patella, there was *shortening* to the amount of three-quarters of an inch; and upon extending the measurement from the same point down to the internal malleolus, the same amount of shortening was found in comparison with the sound limb. Thus, at first sight, the case simulated a dislocation upon the horizontal ramus of the pubis.

When Mr. Adams saw the case, he suggested another mode of measurement—namely, in the axis of the bone, the fixed point being taken from the root of the penis, and the tape carried to the lower margin of the patella. By this method it was found that *lengthening* had taken place to the extent of two inches and a half, and the same result was obtained by continuing the measurement to the malleolus. No doubt, then, remained about the head of the femur being lodged on the obturator externus muscle. When the patient was placed in the erect posture, the leg appeared lengthened, the foot a little everted and drawn away from the other leg; he could not approximate his knees, nor move the limb in any direction, and the body was drawn forwards by the psoas and iliacus muscles.

Reduction was not immediately attempted, as the parts about the perinæum and knee were much excoriated: the patient was allowed to rest for three days, and the reduction was then tried, after a consultation having taken place on the case. Just thirty-three days after the accident, the patient, being rendered unconscious by inhalations of equal parts of chloroform and ether, was placed in a sitting posture upon a sofa, a post, covered by a blanket, standing between his legs. A bandage was then applied round his body, to assist in keeping the trunk erect, one assistant sat on each side of him for the same purpose, and a jack-towel was passed on the sound thigh, to prevent the body from being turned round the post when extension would be made.

These preliminary arrangements being completed, wet bandages were applied above the knee, the clove hitch placed upon them, the pullies adjusted, and gradual extension commenced. This was kept up for a considerable time, and when the inhalations of chloroform were suspended, the patient returned to a state of consciousness, and said he felt it go in. Extension was immediately ceased, and upon examining the limb the trochanter was found to be more prominent than before, and this circumstance gave Mr. Adams encouragement to proceed further with the extension. The patient was therefore again put under the influence of chloroform, and after extension had been made for some little time, he again said that he felt it go into the socket, but not the slightest snap was heard by the persons present. Still, upon examination, the dislocation was found reduced, the trochanter had become normally prominent, there was motion in the joint, and the two limbs were precisely the same length. The knees and ankles were immediately secured by bandages, the patient carefully removed to bed, and ordered to keep perfectly quiet.

Mr. Adams stated that four cases of a similar kind had occurred in the hospital some time ago; in one of these, reduction was attempted without the assistance of the post between the legs, but unsuccessfully; when, however, that resting point was resorted to, the dislocation had been easily reduced. The patient progressed very favourably; on the seventh day after the reduction, the bandages were removed, and the limb was well rubbed with linimentum saponis. On the eighteenth day he was able to get up and walk with crutches, being cautioned, however, not to bear any weight upon the limb; and on the twenty-first, he was discharged at his own request, promising to take every care of the limb, and keep it very quiet, though he is able to use it a little.

The advantages of chloroform in the reduction of dislocations are now fully acknowledged; some surgeons, however, consider that its use in such cases is somewhat fraught with danger. They think that the sensation of the patient being quite suspended, he cannot give notice when the extension is carried too far, and that this circumstance may give rise to great mischief. A very animated discussion on this subject lately took place in the Surgical Society of Paris, when chloroform had its supporters and detractors; the leaning of the meeting was, however, decidedly in favour of great caution, though the question cannot be looked upon as decided.

Traumatic Elephantiasis.

(Under the care of Mr. Adams.)

We venture to give the name of traumatic elephantiasis to a case of enormous swelling of the leg, which has been, for a considerable time, under the care of Mr. Adams, though we are aware that elephantiasis is strictly an idiopathic affection. There was, in fact, such a considerable enlargement of the whole of the left lower limb, that the sight of the affected part forcibly recalled to the mind of the observer the worst cases of elephantiasis which have been recorded, merely, however, as regards size. It will be seen by the sequel how very imperfect the function of absorption may become in certain constitutions, and how the habits of the draymen of breweries predispose to the stagnation, consolidation, and organization of effused fluids.

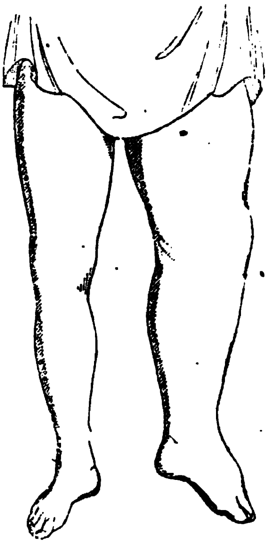
The patient is a brewer's drayman, of a heavy and stout conformation, forty-two years of age, and has been engaged for the last ten years in his present avocation, during which time he has enjoyed excellent health. He, however, used to partake very largely of beer and porter, though he did not spare his labour and exertion in the exercise of his calling. In January, 1850, he was placing some barrels in a cellar, when his companion, who was letting down a cask, allowed the latter to slip; it fell into the cellar, and struck him against the ham of the left leg. The shock did not fracture the limb, but was powerful enough to knock down the patient, who immediately suffered excruciating pain in the part which had been severely contused. He fell upon the cask which he was rolling at the time, and tried in vain to regain his legs, his sensation being that he had received a very severe wound, and he even thought that the blood was running down his clothes. This latter circumstance is extremely valuable, as it would show that extensive laceration of vessels had taken place internally, and that the patient even felt the blood running in unwonted channels within his own limb. There was, however, no solution of continuity on the skin, though he suffered immediately very intense pain, which increased as he was being conveyed to the hospital, the thigh and leg rapidly swelling to a very great size.

When brought in the whole limb looked as if he were labouring under severe contusion, and there was evidently an enormous extravasation of blood in the popliteal space, which extended to a great distance, both above and below: the limb measuring around the thigh about thirty-two inches in circumference. The patient, when admitted, was labouring under the effects of the shock, and there was much prostration; but the usual means succeeded in restoring him completely.

Mr. Adams, on examining the limb, considered that the injury consisted of rupture of some large veins in the popliteal space. The case went on at first, much in the ordinary way of extensive contusion; but after about three weeks, the limb became indurated, and symptoms of inflammation appeared in the subcutaneous cellular membrane around the knee-joint; these were accompanied with considerable induration of the tissues, the skin presenting a brawny appearance. As the man complained of a great deal of pain, and there was much constitutional disturbance as well as obscure signs of fluctuation deeply seated, Mr. Adams made a deep and exploratory incision at the upper and inner part of the knee. But no matter was detected; the cellular tissue of the limb being excessively hypertrophied and loaded with inspissated serum. In the course of a few days, there were some signs of indistinct fluctuation in the outer part of the thigh; these induced Mr. Adams to make a few incisions through the fascia lata in that region; still no matter was found; but the same condition of cellular membrane and fascia as on the other side was visible. The only good effect of these incisions was the relief of the tension of the part, and when suppuration was established in the limb, the patient felt much easier. At this time, a weak and intermittent pulse led to the suspicion of disease of the heart, but this symptom subsequently disappeared.

The wounds continued to discharge freely for several weeks, the fluid consisting principally of pus, and, as it may readily be supposed, a high degree of symptomatic fever was set up by this state of the limb; it was, however, subdued by the usual means.

The hard, dense, and brawny consistence of the thigh continued for several weeks, the leg being mostly œdematous; and the patient, having now been about three months in the hospital, Mr. Adams, despairing of the natural powers affecting the absorption of the fibrinous masses which were deposited among the muscles, and in the cellular tissue of the thigh, resolved to put his patient under the influence of mercury. The gums were soon affected by the specific action of the metal, but no appreciable effect on the induration of the thigh was thereby produced. The lotio plumbi was largely used, sarsaparilla, quinine, and ammonia were successively given, and the limb at last began to diminish in size.



The local means consisted in bandaging, frictions with soap liniment, mercurial ointment, &c.; and with a view of maintaining the nutrition of the muscular system, electricity was used for four weeks, with some degree of benefit, evinced by the power of moving his feet, which the patient regained.

From thirty-two inches the thigh had now come down to twenty-six, and after six months' perseverance and patience, the circumference lessened to twenty-three inches, but hard, fibrinous masses could still be felt on the external and upper part of the thigh; the ham was tense and unyielding; the leg and foot still œdematous, and the motions of the knee entirely abolished, as, in fact, they had been ever since the accident. Towards the month of August, 1850—viz., eight months after admission—the health of the patient had considerably improved; the fibrinous masses were somewhat less in size; though still keeping the thigh of a much larger bulk than its fellow. The knee was about half an inch less in circumference than a month before, though that articulation was still rigid, and the indurated portions of the thigh felt more moveable. The patient attempted to put his leg on the ground, but he was unable to bear the least weight upon it, and it had hardly been placed in the vertical position, when it turned purple and looked congested.

Mr. Adams now resorted to the use of iodine, and ordered seven drops of the tincture to be taken three times a day in a appropriate vehicle. This medicine seemed to agree well with the patient; the general appearance of the limb improved, the size gradually diminished, and the patient is now walking upon crutches. It is extremely likely that he will eventually regain the use of the limb, though some months may yet elapse before he may use it with ease and comfort to himself.

It is instructive to notice how the pathological phenomena vary after injuries, according to the previous mode of life of the sufferer. In the case before us the patient experienced one of those lesions which are, in general, easily amenable to a cure; though it must be confessed that contusions of a violent description sometimes cause such disorganization as to be very difficult of management. But here, supposing that no important vessel, but a great number of small ones were ruptured, the effusion of blood certainly occurred in a limb already loaded with fat, and gorged with highly carbonized sanguineous fluid. The effusion had, of course, very little chance of being readily absorbed with such a patient; and when the actual oozing from the injured vessels had ceased, and serum, highly charged with fibrine, was effused as an event of the inflammation which had been excited by the injury, the fibrinous deposits became speedily organized, and the weakened system of the patient was not equal to the absorption of the morbid products.

The abscesses which formed and discharged for some time, no doubt, carried off a certain amount of the exuded fluids, but this process was insufficient to free the limb from the fibrinous masses which went on being formed and organized. In reviewing the various phases of the case, the habits of draymen, the bloated appearance of the subject, the violence of the injury, the crushing and subsequent disorganization of parts, it seemed at first sight extraordinary that gangrene did not set in and necessitate the removal of the limb; but it would appear that the large amount of stimuli usually ingested by draymen, though prejudicial in many respects, had provided the tissues with such an amount of vitality as to make them resist the tendency to sphacelus, which often follows contusions; it should, however, be borne in mind that there was no evidence of the rupture of an important vessel. There is now in one of our large hospitals a poor man, who met with an injury somewhat similar to the above described, and whose case we hope soon to give our readers. Here the violence was expended on the ham, as happened to Mr. Adams' patient, and also without solution of continuity in the skin; but it is supposed that not only the popliteal vein, but the artery likewise were ruptured. The femoral has been tied, but the limb is rapidly running into gangrene, and the patient sinking; the latter had for many years lived upon very poor diet, into which *animal food* did not enter at all.

ST. GEORGE'S HOSPITAL.

Extra-Uterine (Tubal) Fœtation.

(Under the care of Dr. Bence Jones.)

Among the various untoward circumstances which may interfere with the regular and healthy progress of ovulation and gestation, extra-uterine fœtation is happily rare, though well-authenticated cases of this deviation have been published. Dr. Campbell, in particular, has rendered good service by his work on the subject, and we have this day to add to the cases mentioned in that valuable book one which Dr. Bence Jones had lately under his care. The result, as is usual in such instances, was fatal, as it but seldom happens that women thus affected, "survive the shock, hæmorrhage, and subsequent inflammation, the parts accommodating themselves to the presence of the fœtus, so that the patient recovers a certain amount of health, and suffers but little local inconvenience." (Fleetwood Churchill.) We were favoured with the following details by Mr. Earle, the clinical clerk, who took particular pains in collecting them:—

The patient was a married woman, twenty-nine years of age, who was admitted, under the care of Dr. Bence Jones, August 10, 1850. She was, when first seen, of a blanched and anæmic appearance, and stated that she had been out of health for the last five months. Her illness commenced with a pain in the bowels, which resembled cramp, and it was accompanied with shivering and sickness, quickly followed by heat and perspiration. She suffered from a similar affection two years ago, when she understood from her medical attendant that an abscess had formed in the abdomen. The patient had at that time a sudden discharge of *blackish* matter from the vagina, which continued to flow for several days.

From this illness she quite recovered, and the catamenia became regular and natural. For the last seven months until about four weeks ago, she had suffered at different periods from violent pains in her abdomen, accompanied by sickness, shivering, heat, and perspiration, the duration of the attacks being about five or six hours. Hot fomentations generally relieved her, and she then used to remain well for several days. For the last month these attacks have been almost continuous, and she is hardly ever free from pain and uneasiness. The bowels have always been much constipated, sometimes not acting for four or five days, and her evacuations were constantly attended with pain. She complains of the globus hystericus, a great pain between her shoulders, and the poor woman is under the impression that she is suffering from an affection of the womb. Patient has been married ten years; she had a child one year after her marriage, but has not been pregnant since. The menstrual discharge has not taken place for the last four months, but the uterine functions were quite regular before that period, excepting a leucorrhœal flow, to which she has been subject for the last three or four years.

The latter affection left her, however, about one month since; she is now very pale; her countenance is anxious, distressed, and the lips slightly livid. The legs are drawn up to the abdomen, and she complains of much pain over the whole of the latter region, worse, however, towards the lower portion and to the right side. She describes the pain as being of a pricking and shooting character, aggravated by strong, but not light pressure; and she states that it varies in intensity, being very acute when the bowels are acting, or when she passes her water. There appears to be no tension of the abdomen; patient was sick, and vomited two days ago; had epistaxis twice within the last fortnight, and has lately been losing flesh. The respiration is not hurried, and the abdominal muscles act as usual during the performance of that function.

In the right lumbar region, there is a hardish, irregular, and rather small tumour, painful on pressure; and the whole hypogastrium feels enlarged, as though it were filled with a hard growth, which is, however, quite distinct from the one just mentioned. Tongue slightly coated; pulse 108; rather hard; sleep indifferent; appetite very bad; urine plentiful, and rather deep coloured; bowels moved with pain.

Dr. Bence Jones, considering chronic inflammation of the peritonæum to exist, ordered eight leeches to the right side, and stupes after the abstraction of blood. Internally, the patient had two grains of calomel, and one eighth of a grain of opium every sixth hour. She was also to take draughts containing dilute nitric acid, and to have a common enema. On the second day the countenance was not so distressed as on the first, though the night had been very bad, and the alvine evacuation was scybalous, and accompanied with much straining and pain. The position in which she feels most easy is on one of her sides, with the knees drawn up. Castor oil and an enema were ordered, and the other medicines continued. Patient improved on the third, fourth, and fifth day; the pulse gradually fell to 98, and the nights were better; on the fifth day, however, there was slight epistaxis. The medicines and fomentations were continued, and the bowels kept open.

On the sixth day, the patient felt much better until after taking breakfast, when she had an attack of acute pain, which lasted about three hours. Cataplasms were applied to the abdomen, and the patient was ordered three grains of mercury with chalk, and one grain of opium, to be taken every night. Morphine was likewise to be administered if the pain became urgent. On the seventh day, pain, more intense than usual, was complained of in the tumour, situated on the right side, as also in the left groin; the latter was worse when she moved, and of a shooting character. She described her pain as being like spasm, the countenance assumed some anxiety, and the pulse rose again to 126, though it was very feeble.

On the next day the shooting pain in the left side, aggravated by motion or pressure, was again complained of. The same hardness was felt on the right of the umbilicus, and the enlargement in the hypogastrium resembled that of a gravid uterus. The bowels now acted with less pain, though the motions were still scybalous; the appetite became a little better, and the pulse fell again to 92. The patient was put once more on small doses of calomel, with occasional purgatives.

On the ninth day the abdomen was still tender on pressure, the knees carefully drawn up, the patient stating that she experienced pain when the legs are extended. On the tenth day the account was that the patient had abundant alvine evacuations, though they were green and scybalous. She expressed herself as much better, and had had an excellent night; but about half-past seven in the morning, she was attacked with the usual pain in the abdomen, which came on as before, and apparently not of an aggravated character. Soon after this, however, she vomited about half a pint of green fluid; the pain continued to increase, and she twice again vomited the same kind of liquid at intervals of about half an hour. She then sank into a state of collapse, and died at eleven in the morning, ten days after admission.

She had not been moving about or straining in any way, but merely said to the nurse that she thought her usual pain was coming on.

The post-mortem appearances were as follows:—On laying open the abdomen, about three pints of coagulated blood, recently extravasated, were found in the lower part of the cavity of the peritonæum. The lower part of the great omentum was adherent to the inferior convolutions of the small intestines, and these were glued to the posterior part of the fundus uteri. These adhesions appeared to be recent, as they were easily separated, and there was no appearance of general peritonitis.

On turning up the great omentum, and putting the hand among the intestines in that part where the tumour had been felt during life, a well-formed male fœtus, about seven inches long, supposed to have reached about the third month, was found lying loose on the inner side of the ascending colon, a little below and to the right of the umbilicus. Following the cord downwards, it was traced to the placenta, through a lacerated opening of about three or four inches in extent, in a sac which was about twice the size of a man's fist. The sac was situated in the right iliac fossa, and formed, apparently, by an expansion of the fimbriated extremity of the right Fallopian tube. Part of the inner membrane of the ovum with the cord was drawn through the lacerated opening.

The outer surface of the sac, especially on its posterior aspect, and also the posterior surface of the right broad ligament and body of the uterus, were coated over with layers of coagulated blood, which had evidently been effused some time previous to the patient's death, as it was partly deprived of colouring matter, and presented a perfect resemblance to the laminated coagula found in aneurismal tumours. The above-described sac contained the placenta, which was attached at the point most distant from the uterus, as also the ruptured fœtal membrances, the rest of its cavity being filled up by coagula.

The uterus was much enlarged, the body and fundus having emerged above the brim of the pelvis. On laying open the uterine cavity, the walls were found spongy and much thickened; the os and cervix uteri were clogged by a thick, viscid mucus, and the interior of the internal surface of the uterus coated over with a soft, thick, and curdy-looking substance, probably an attempt at the formation of a membrana decidua. The ovaries were small, and the right contained a true corpus luteum. The fœtus had evidently escaped from the sac into the cavity of the peritonæum some time before death.

It is evident that the patient did not die at once upon the occurrence of the rupture of the sac and the hæmorrhage, and the old coagula showed that effusion of blood must have taken place at various periods before the rent occurred. These circumstances would make it appear strange that no greater amount of peritonæal inflammation was set up; but as to the patient surviving the final hæmorrhage for a little while, it can hardly be looked upon as very extraordinary, as *recoveries* after such an occurrence have been recorded. The train of symptoms which we have sketched above are clearly explained by the tubal fœtation, and the previous attacks of uterine derangement which the patient had suffered seemed to have been the first steps of the abnormal state of things which led to her end. It is interesting to note the vicarious epistaxis by which Nature relieved the congestion of the system, and melancholy to remark how seldom her powers, or those of the medical attendant, are adequate to ward off the fatal termination of similar cases.

Re-appearance of an Encephaloid Growth.

(Under the care of Mr. Prescott Hewett.)

If our readers will refer to a former No. of The Lancet, they will find the report of a case of encephaloid tumour of the femur, for which Mr. Prescott Hewett amputated the limb very near the trochanter, as the growth had invaded the bone to very near the joint. We have to call attention to this case as the malignant disease has returned in the stump, and this unfortunate circumstance verifies Mr. Hewett's fears, as expressed after the operation, when he said, "that it was his opinion that the disease would return."

It would appear that the patient went on well after the amputation: the stump healed without a single untoward symptom, and the glands in the groin, which were previously slightly enlarged, gradually diminished in size. He was discharged from the hospital suffering no pain whatsoever, having gained flesh, and being in good health and spirits. The young man was seen from time to time, as an out-patient, when he appeared to be going on favourably, gaining flesh, and being in good condition; but, on 3rd of July, the poor fellow applied at the hospital for re-admission, just seven months after the removal of the limb. He was then suffering great pain in the stump, the end of which had become enlarged, soft, and excessively painful, so much so, that he could obtain no rest at night; he was losing flesh, and appeared much depressed.

On the 10th of July, a consultation of the surgeons was held, at which it was determined to propose the removal of the bone at the hip-joint, but not to press the operation. The glands were not more enlarged than when the patient left the hospital. The soft part did not seem to be involved in the morbid structure, and no disease could be detected either about the abdomen or chest. The patient having been informed, in answer to a question of his, that, even after the removal of bone, the disease might re-appear, declined undergoing the operation, and subsequently, at his own request, discharged from the hospital. He has been seen once or twice since, and the disease is now making a somewhat more rapid progress, producing great suffering, and consequent emaciation.

It should be mentioned, in justice to Mr. Hewétt, that when it was originally determined that the limb should be removed, he stated to the patient that it would be more secure to amputate the joint than leave part of the femur; but the poor man expressed great dread at disarticulation, and this apprehension rendered it impossible for Mr. Hewett to press the subject. When reporting the amputation of the thigh, (The Lancet *ante.*) we quoted some passages of the works of Sir Benjamin Brodie, and of Mr. Stanley, which held out some hopes that the disease might not return; these hopes rested principally upon exceptional cases. As to the general rule, however, Sir Benjamin embodies his opinion in the following words, which, though applying to affected *joints*, have a distinct bearing upon the present subject:—

"If the conclusion at which I have now arrived as to the nature of the three last-mentioned cases be correct, I have no sufficient evidence to offer in favour of an operation performed for the removal of a joint affected with malignant disease, where a portion of the bone in which the disease has originated is allowed to remain. Cases may have occurred in which there was no recurrence of the disease under these circumstances; but there has been no such favourable result in any of those in which I have had the opportunity of learning the patient's history afterwards; and, as I have already observed, it is not what our experience of the effects of operations performed for malignant diseases in other organs would lead us to expect. I confess that it seems to me that the rule of practice is sufficiently obvious, though there may be some difficulty in the application of it to individual cases, on account of our not having certain marks by which we may at all times, and in every instance, distinguish diseases which are malignant, and diseases which are not malignant, from each other."—(Diseases of Joints, p. 278, 1850.)

We find, in the same work, (p. 273,) a few more remarks on this subject.

"It is to be observed that, in this instance, the whole of the humerus, that is, the whole of the organ in which the disease was situated, was removed. It is probable that the success of the operation, in such cases, depends mainly on that circumstance. When a scirrhous tumour is imbedded in the gland of the breast, no experienced surgeon would be satisfied with any operation short of removing the entire breast, and the impossibility of doing more than to remove a portion of the tongue affords a reasonable explanation of the almost universal failure of an operation when that organ is the seat of malignant disease."

Mr. Stanley is still more explicit.

"Still, the ascertained fact of the encephaloid tumour being occasionally combined with unsoundness of the bone, to an indefinite extent, is sufficient to warrant the rule, that in such cases the amputation should, if possible, be performed, not through the bone in which the disease originated, but either through the contiguous joint, or above it."—(The Diseases of Bones p. 178.)

We have brought forward the relapse of Mr. Hewett's patient, as it is of importance that accurate data should be obtained regarding the history of those cases where malignant tumours have been removed; herein entering into the views of Mr. Stanley, when he says:—

"The frequency with which encephaloid disease of soft parts thus co-exists with, or occurs subsequently to, the appearance of this disease in bone, becomes, therefore, an important subject for investigation; and it requires the accurate record of a *large series of facts* to determine the degree of confidence with which a limb may be amputated when the seat of encephaloid disease which commenced in it is, as yet, apparently confined to the bone."

Encephaloid Disease of the Femur; Death; Autopsy.

(Under the care of Mr. Cæsar Hawkins.)

We have to bring before our readers a case of encephaloid disease, upon the nature of which there was no doubt during life, and which had so extensively invaded the surrounding parts that the only means of relief which the surgeon has at command—namely removal of the growth, could not for a moment be thought of. We consider the case very instructive, from the enormous size of the growth, and inasmuch as the autopsy has afforded additional evidence of the fact, that encephaloid disease is but too often existing in some of the viscera, the same as on the trunk or limbs, and we proceed to offer a short outline of the case, based upon the notes furnished by Mr. Day.

The patient, a young man about twenty years of age, of a pale and worn aspect, was admitted under the care of Mr. Hawkins, Dec. 5, 1849, with a large tumour extending from about the middle of the left femur to the parts situated under Poupart's ligament, the femoral artery and vein being pushed on one side. It appears that the patient had been in the enjoyment of tolerable health up to about four months before admission, when he began to feel a continual pain in the thigh, which soon shifted to the knee. One month afterwards he felt a little hard swelling on the outside of his thigh; this gradually and slowly increased until about four weeks before he entered the hospital, when it grew more rapidly, so as to attain its present size. There is great pain in the tumour, and the patient's rest has been continually broken by his sufferings; he however contrived to walk about till within the last three weeks, though he is very thin and weak.

As the swelling had evidently extended under Poupart's ligament, and on the dorsum of the ilium, Mr. Hawkins did not for a moment entertain the idea of an operation for its removal, and it was clear that the means used for the poor boy's relief must be of a palliative nature only, and opiates were administered to procure rest at night. The whole of the thigh became in a few days œdematous, the pain in the knee increased, and about ten days after admission the patient stated that he had heard a cracking noise in the thigh, he, at the same time, suffering great pain. Two or three days afterwards, the limb began to assume a curvature, the convexity looking externally, the veins ramifying on the tumour swelled considerably, and about six weeks after admission the whole limb was affected with considerable œdema. The tumour, in the meanwhile, rapidly increased; it measured, at this time, twenty-four inches and three-quarters in circumference, and being again examined two days afterwards, it was found to have increased a quarter of an inch.—The morbid process continued steadily, the superficial veins swelled very much, the pain became exquisite, and a slight cough set in. Three months after admission, the circumference was twenty-eight inches and a half, the left foot became more and more everted, and the convexity of the limb more marked: these symptoms became worse and worse, the sputa were soon streaked with blood, and the patient sunk exhausted, after having remained in the hospital about six months.

Mr. Hawkins found chloroform very useful as a lotion upon the tumour to mitigate the pain, and when the latter had become very acute, the following application gave great relief—two drachms of chloroform, two of rectified spirit, and eight ounces of camphor mixture.

The post-mortem examination was carefully conducted by Mr. Hall, demonstrator of morbid anatomy to the hospital, and presented the following appearances: The body was much emaciated, and the left thigh, from the crest of the ilium to within five or six inches of the knee, was enormously enlarged, and measured thirty-two inches in circumference, that of the opposite side measuring only thirteen inches. The skin covering the enlargement was tense and shining, and marked by numerous dilated veins, which traversed it in various directions, and gave it a marble appearance.

The lungs were congested and studded with numerous tumours, varying in size from a large shot to that of a walnut, some of which, situated immediately under the serous membrane, projected from the surface of the lung, and a few of them hung almost pendulous in the pleural cavity. They were rather more numerous in the left lung than in the right, and consisted of highly vascular *encephaloid* growths, the larger ones containing more or less extravasated blood, and presenting the appearances common to the hæmatoid variety. The heart and abdominal viscera were healthy.

An enormous encephaloid growth, of a somewhat oval figure, was connected with the upper part of the left femur. The growth extended from the outer surface of the ilium, beneath the gluteus medius and minimus, which were expanded over it, and from the portion of bone surrounding the acetabulum to the lower part of the middle third of the shaft of the femur. It was irregular, and somewhat tuberculated on its surface, and invested by a dense capsule of condensed cellular tissue, beneath which, on the posterior and outer aspects of the growth, were felt here and there, several broad lamellæ of *bone*, some of them an inch or two in diameter. At the posterior part of the tumour, the capsule was thicker than elsewhere, and gave attachment, along a line which corresponded with the linea aspira, to the adductor muscles.

On cutting into the tumour, it presented the general appearances of encephaloid disease. It was soft and elastic, of a yellowish white colour, mottled and variegated with extravasated blood, and appeared to consist of a cellulo-fibrous matrix, containing in its interstices a milky fluid, and in some places a medulla-like substance. The femur was situated nearly in the centre of the long diameter of the tumour, but rather nearer to its posterior surface. It was extensively broken up into small fragments and spiculæ of bone, many of which had been carried outwards by the eccentric growth of the tumour, and distributed through its substance.

Three principal portions, however, could still be distinguished, the first consisting of the cancellous portion of the upper part of the trochantar: the second, of a portion of bone, about four inches in length, immediately below the former; and the third, of the remaining portion of the shaft of the femur. Around these, numerous small fragments of bone were arranged —but the greater part of the compact portion of the shaft was completely broken up into spiculæ, so as not to be distinguished from the cancellated structure of the bone. Immediately in front of the middle of the three fragments described, and about the centre of the diseased growth, there was an irregular cavity, or cyst, of sufficient size to contain an egg, filled with a viscid, transparent fluid. This cavity appeared from its connexions, to have been a portion of the medullary canal of the femur.

Around the acetabulum, the tumour appeared to be attached to the bones of the pelvis, but this could not be ascertained positively without destroying the appearance of the specimen; and from the great mobility of the parts, it was inferred that a fracture existed through the acetabulum into the great sacro-sciatic notch, the bone in the vicinity being much softened, and easily pierced by the knife.

At the anterior inferior spinous process of the ilium, the bone was slightly thickened and enlarged by encephaloid disease, and three or four small tubercles were observed on the inner surface of the ilium at the root of this process. The thyroid membrane was pushed inwards by the protrusion of part of the tumour through the obturator foramen, but further than this the disease had not extended into the cavity of the pelvis. The obturator vessels and nerve entered the substance of the tumour at this part, but as far as they were traced they did not present any remarkable appearance.

The periosteum investing the lower third of the shaft of the femur was thickened and œdematous, and the membrane lining the medullary canal of the bone (exposed in a transverse section, five inches below the tumour) appeared swollen, and highly vascular. Over the surface of the tumour the muscles of the thigh were expanded in a remarkable manner, and presented the appearance of thin layers of pale muscular fibres, very different from the aspect of the same structure in health. Beneath the upper part of the sartorius, and at the attachment of the rectus to the inferior spinous process of the ilium, some small tubercles of encephaloid matter were observed; others were developed in the substance of the vastus externus, and one, of about the size of a small Spanish chesnut, in the belly of the rectus, near its middle. The cellular tissue between the muscles was slightly infiltrated with serum, especially that situated between the tensor, vaginæ, femoris, and gleuteus maximus, and the muscles beneath.

The femoral artery and vein were pushed forwards and inwards, and occupied a very superficial position, but both vessels were pervious throughout their entire course. The profunda artery and vein were traced, lying side by side, for a short distance, when they dipped into the substance of the tumour, beneath the expanded belly of the vastus internus muscle. A small collection of encephaloid matter was situated in the angle between the origin of the profunda artery and the femoral vessels. The branches of the anterior crural nerve were spread out, and flattened into thin, narrow bands of nerve fibres. The deep femoral glands were enlarged, but not diseased; the superficial veins were pervious, and many of them enormously enlarged.

ROYAL FREE HOSPITAL.

Disease of the Elbow-joint; Peculiar Method for obtaining speedy Anchylosis.

(Under the care of Mr. Gay.)

Frequent visits to the wards of the London Hospitals will impress the observer with the fact that chronic diseases of joints are extremely frequent among the class of patients admitted into these institutions, and he will likewise be struck by the great amount of trouble and anxiety such cases occasion to the conscientious surgeon. It is often extremely difficult to determine whether the patient's constitution will bear up against the exhausting processes of suppuration, ulceration, and anchylosis, or whether the limb should be removed. Mistakes are made either way; patients die because the surgeon is too humane, or they survive with their limb, when its removal was stated to be the only means of saving life. It is impossible to measure out to a nicety the resisting power of the patient, and in case of doubt, all surgeons are agreed that the removal of the member is the safest course. Yet so severe is this measure that it has been attempted to be replaced by excision of the joints.

This operation, as is well known, has been successful in some instances; it is even stated that a certain amount of motion has been regained after the removal of the diseased articular surfaces, and our readers may have perceived that we are endeavoring, by carefully collecting the facts bearing upon this question, to throw some light on the results obtained, and ascertain the amount of confidence this line of practice is entitled to. We have lately seen Mr. Gay treat chronic diseases of joints, without trusting to either of the three methods alluded to above—viz., 1, natural anchylosis, after protracted suppuration and ulceration; 2, excision of the articular extremities of the bones; or 3, amputation. We shall attempt by sketching out one of Mr. Gay's cases, to give an idea of the plan of treatment he has adopted in chronic diseases of joints.

The patient whom we recently saw in the surgical ward, is twenty-nine years of age, of light complexion, and a rather nervous temperament. Four years ago he felt a stiffness of the elbow-joint, and an abscess subsequently formed in the under part of the fore-arm, about two inches from the elbow; it was opened, discharged for two months, and healed. The patient returned to his usual occupation, though the joint remained stiff, but about four months before admission, the joint swelled and became again painful on the slightest movement. He was then treated as out-patient to the hospital, and a large abscess formed on the outside of the arm, about two inches from the elbow, which was opened by Mr. Jackson, the house-surgeon. It discharged a considerable quantity of thick, curdy matter, and as the opening contracted, it was laid open again three weeks afterwards, when the patient was admitted into the hospital.

The joint was now enlarged, very painful, both when moved or compressed, and on rubbing the bones entering into the formation of the joint against each other, no doubt could exist but that the cartilages were gone. The patient's health was at this time much impaired, and the question of amputation was discussed. Mr. Gay preferred, however, adopting a plan which he has successfully employed in similar cases for some years past—viz., that of freely opening the joint by an incision along its outer side. This measure was at once carried into execution, the length of the incision, being about two inches and a half. A large quantity of pus escaped, and the finger passed in through the diseased capsule could readily detect the rough and denuded ends of the humerus and ulna. The wound was filled with lint, and the arm lightly bandaged: the subsequent fever was very slight, and the discharge which was rather abundant, continued about one week. At this time it considerably diminished, the fever abated, and the joint begun to be somewhat rigid. Mr. Gay prescribed tonics and a generous diet; directed water-dressing to the wound, and the arm to be pretty firmly bandaged. From this time the sore assumed a healthy appearance, the size of the joint diminished, it became stiff, and at the expiration of three weeks anchylosis was perfect. During this period, two sinuses, one running up under the integuments of the arm, the other under those of the fore-arm, required free opening, but these incisions soon united perfectly.

Mr. Gay has adopted this mode of treating diseased joints (viz., when the cartilages are ulcerating) for many years past; in two cases of disease of the elbow-joint, similar to the above related, this peculiar treatment was, some time ago, followed with similarly successful results, and we noticed a patient, affected with disease of the wrist-joint, who was admitted about the same time as the one whose case we have just reported, with whom the joint was opened by an incision over the posterior and inferior end of the ulna. Here, again, a large quantity of pus was discharged, and no unfavourable symptoms followed; the hand was laid on a splint, and after one month the discharge ceased, the wound healed, and anchylosis by soft, fibrous tissue took place. The man, who had entirely lost the use of his hand, was now regaining much power over it.

It should be mentioned, however, that in a case of disease of the joint of the great toe, between the metatarsal bone and the inner cuneiform, the results were not favourable; but in another case of disease in the tarsal-joint, the termination was more successful. This last patient died afterwards of phthisis, but a post-mortem examination was unfortunately not permitted.

Mr. Gay has great confidence in the success of this plan of treatment in chronic diseases of joints—in those cases, namely, where destruction of the articulation has taken place, and nothing can be obtained (supposing amputation be not performed) but a stiff joint. In support of this opinion, Mr. Gay considers, *in the first place*, that the consequences of opening *diseased* joints are not so serious as are usually represented, and are, on the contrary, so slight as hardly to deserve notice. In most of the cases where Mr. Gay carried out this practice, the patient's general health was not in the slightest degree affected by the operation. In fact, diseased tissues, as previously stated, bear operative proceedings with less local or constitutional disturbance than is the case when sound parts are interfered with. A wound of a healthy joint may be followed by serious consequences, but it is not so with diseased articulation.

Mr. Gay thinks, *in the second place*, that the process by which nature cures a joint in which the cartilages are removed by disease is anchylosis, but this eventual result demands the absence of cartilage. This object appears to be insured by the suppurative action which goes on in the interior of the joint, as well as the ulcerative processes which occur in the soft tissues external to the same. It is to the tardy manner in which such a process takes place that the constitutional symptoms are to be traced, for the pain which accompanies the ulceration of the capsule and external soft parts of the joint is generally very great, prolonged, and destructive of rest and appetite. No better example of the suffering consequent on matter pent up in a joint can be had than that of such an occurrence in the hip, as well as of the relief which an outlet to the matter affords. Mr. Gay, therefore, believes that laying open the joint as soon as an indication of a shedding of the cartilages is afforded, allows the process of anchylosis to go on with greater rapidity, and with less detriment to the general health. The *debris* of the cartilage comes away with the more abundant suppuration which is thereby established; the restorative process follows, and is performed more speedily than in cases where the joint is left to itself.

Mr. Gay is, *in the third place*, of opinion, that the articulation is placed in the condition of a sinus which has been slit up. It is difficult to explain why a sinus having a single small aperture, and no diseased tissue in connexion with it, should refuse to heal; but such is the fact. Lay it fairly open, however, and the surface which has been pouring out tenacious serum, and appears covered with unhealthy granulations, which look as though the cells were distended with serum, assumes a healthy action and cicatrizes. So is it with a diseased joint. Presuming that the cartilages have been shed, it may be said, that the joint refuses to assume the processes necessary to reparation, (as in the case of the sinus,) until by laying it fairly open, healthy action is established, and the joint thereby fixed, by the production of new ossific and uniting deposit. Such are Mr. Gay's arguments for opening joints when the cartilages are supposed to be about being shed, or that event has already taken place. The after treatment consists in fixing the joint in the most useful position, and keeping it steady by bandages, &c.

ST. BARTHOLOMEW'S HOSPITAL.

Lithotrity in a boy, eight years of age.

(Under the care of Mr. WORMALD.)

HOSPITAL surgeons are very frequently called upon to free patients from the torture of stone in the bladder, and from their experience it would appear that such patients are generally, as regards age, at the top and bottom of the scale. Mr. Coulson has well remarked, in his work, "On the Diseases of the Bladder and Prostate Gland," "Calculus is more common in temperate than in warm or very cold climates, and is much more incident to early years than to any other period, and to old age more than to the prime of life. Hippocrates notices the fact, that infants at the breast are not exempt from the disease; and our old English author, Philip Barrough, in his 'Methode of Physick' observes, 'Stones in the bladder do ingender oftener in children than in other folks.'" . . . . . . "Although the rich, the luxurious, and the indolent are at a certain age more prone to calculus than other classes, the poor and the destitute, in early years, enjoy no immunity from it; for the ill-fed and half-clothed children of the manufacturing and labouring population are frequently afflicted with stone."

Though the actual cause of this occurrence has not yet been satisfactorily made out, it would seem as if primary assimilation had much to do with the phenomena, since we see that those who live luxuriously, as well as the ill-fed, are equally obnoxious to calculous affections. The little boy whom Mr. Wormald had lately under his care, belongs to a very humble class of society; he is thin and pale, only eight years of age, has been suffering from all the symptoms of stone for the last twelve months, and was admitted May 6, 1850. When at school his bladder used to be very irritable, and matters were made worse, as the schoolmaster who suspected boyish tricks, refused to let the child leave the room as often as he requested, and frequently kept him in the whole morning. It is a pity that those who have the care of the young do not take the trouble of learning the leading morbid peculiarities of youth. It often happened that when the boy was at last released, he found it impossible to empty his bladder, and was generally relieved by the catheter. "At other times," as the poor little sufferer truly expressed it, "I tried to pass water every few minutes, and could only void a teaspoonful at a time." So irritated were the bladder and urethra, that a purulent discharge through the latter took place; the child was constantly pulling the prepuce, and his sufferings were very great. At last complete retention came on, caused by a stone blocking up the urethra just at the peno-scrotal angle. The boy was then admitted under the care of Mr. Wormald, and the nature of the case being recognised, an incision was made into the urethra just where the calculus could be felt, and Mr. Wormald had no difficulty in removing it.

The fact of this stone (which was about the size of a damson stone, and principally composed of phosphate of lime) having found its way into the urethra, made Mr. Wormald suspect that calculi of the same nature were in all probability lying in the bladder. This induced him to sound that viscus, and having ascertained the presence of a stone, he resolved to have recourse to lithotrity in order to free his patient from this foreign body. Crushing the calculus was preferred to the operation of lithotomy, principally as an aperture of a tolerable size already existed at a short distance from the bulbous portion of the urethra, and as it might thus be supposed that the fragments would find a more ready outlet when the stone had been crushed, and likewise because No. 9 instrument could readily be passed.

Mr. Wormald broke the stone, which proved to be rather of a hard description. The little patient bore the operation extremely well, and he had very few of the unpleasant symptoms which sometimes follow lithotrity. The operation was repeated five times, four or five days intervening between each, and a great many fragments were passed through the perinæal wound. This opening, however, closed before the whole of the detritus had escaped, and Mr. Wormald found it necessary to incise the cicatrix in consequence of an accumulation of fragments. About two months after admission, the little patient had greatly improved; he experienced no pain in passing his urine; he did so but three or four times a day. Some of the fragments were being discharged without giving him any trouble, and he, indeed, was sometimes not aware of their passage. Sleep and appetite were in the meanwhile satisfactory.

Mr. Wormald took occasion to remark, after one of the operations, how cautious we should be in passing either the staff or the lithotrite into a child's bladder. The urethra in such patients, especially about the membranous portion of that canal, is extremely thin, and the slightest violence would rupture it. It is therefore very advisable that the index finger should be passed into the rectum, so that the force employed might accurately be calculated, and the instrument be gently guided into the bladder. The sensation conveyed to the finger placed in the rectum is just as if the instrument were hardly separated from the former, and Mr. Wormald stated that he had had an opportunity of making an autopsy upon a child, whose urethra had been thus lacerated, and who had died from extravasation of urine.

About three months after admission, the aperture of the urethra in the perinæum, through which so many fragments had passed, closed up; and the bladder being carefully sounded a few days afterwards, that viscus was found perfectly free from any calculous concretions or fragments. Some of the latter were rather large, and principally composed of phosphates externally and oxalate of lime internally. Though the whole of the detritus was unfortunately not saved, it may be conjectured that the original stone was rather of large size. The patient's health is gradually improving; his diet has all along been generous, though not too stimulating, and the medicines which were prescribed consisted principally of sedatives.

The favourable results obtained in this case are encouraging as regards lithotrity in children; for it is plain that the patient was not of robust health, that his bladder had been subjected to a great deal of irritation, and that he was not altogether a very favourable subject. The great advantage with young patients is the little difficulty offered by the prostate gland; which organ, with adults, may present great obstacles. Thus we find Mr. Coulson saying, in the book above mentioned, "The state of the prostate gland ought to be particularly examined when considering the propriety of performing lithotripsy." It would appear that the secret lies in choosing the patients who are fit for the operation of lithotrity; this being carefully done, we might perhaps arrive at more favourable statistics than the following, which are given by M. Velpeau, and quoted by Mr. Coulson:—"Out of 206 patients operated upon, 108 (a very little more than one in two) recover immediately; 80, or nearly one in two and a half, die; and 18 retain the stone, and will be lost; or, in other words, 108 cases cured, to 98 in which death is immediately induced, or may not be averted within a brief interval of time."

NEWCASTLE-ON-TYNE INFIRMARY.

CASES UNDER THE CARE OF SIR JOHN FIFE.

Lithotomy.

J. S——, aged forty-seven, who is married, and a pitman, a native of Lamesley, in the county of Durham, was admitted August 16, with stone in the bladder. Twenty-eight years ago he suffered lithotomy, when the stone broke in extraction. Since that time he has been labouring under the symptoms of a fresh calculus. The irritation of the bladder was excessive; the prostate gland enormously enlarged and indurated.

Three days after his admission into the hospital he was brought into the operating-theatre, for the removal of the calculus. Chloroform being administered to the extent of six drachms, Sir John Fife performed the lateral operation with Liston's knife. He made the first incision more extensive and less perpendicular than usual, passing from the bulb of the urethra, close past the tuberosity of the ischium. Attempting to penetrate the urethra, the resistance was such that he withdrew his knife to examine its point. On opening the bladder he ascertained that the stone was large, and therefore extended his internal incision with a straight bistoury, before introducing the forceps. After this, the stone, weighing one ounce and a quarter, was easily and gently extracted. Some time was spent in examining the bladder, from the apprehension of a second calculus, so that the operation lasted nearly four minutes. Since the operation the man has not had an unpleasant symptom. An elastic gum-tube was retained in the bladder for the first forty-eight hours.

Diseased Antrum.

W. B——, aged twelve, a native of Heworth, was admitted August 16, with great enlargement of the left cheek, from enormous dilatation of the antrum. The patient had measles three years ago, since which time the present tumour has gradually increased; its distention seems, from the feeling, to be caused by fluid.

Sir John Fife made an incision from the commissure of the mouth, horizontally backwards; another commencing at the same point, directly upwards. He then dissected back the flaps as far as the orbit, first tying the facial artery; then with Hey's saw he cut out a right-angled triangle of bone, exposing the whole of the antrum, which contained two teeth and about four ounces of gelatinous amber-coloured fluid, but no organic disease. The swelling has now considerably decreased, and the patient is doing well.

Tumour on the Hand.

J. D——, aged fifteen, belongs to Houghton-le-Spring, was admitted August 16, with a soft, irregular, fibrous tumour of the hand, following fracture of the metacarpal bone of the little finger. It extended from the tendons upwards, bulging out near to the wrist.

The tumour was exposed by Sir John Fife, and a fibro-granular structure observed, extending along the outside of the hand. Its chief attachment was to the integument, from which it was carefully dissected. A piece of lint was then applied to the wound, which was left to suppuration.

QUEEN'S HOSPITAL, BIRMINGHAM.

SUMMARIES OF A CASE FROM THE CLINICAL RECORDS.

(*Reported by* Mr. J. W. Moore, House-Surgeon.)

TUBERCULAR PERITONITIS, WITH DYSENTERY;—FATAL TERMINATION;—POST-MORTEM EXAMINATION.

History.—This little patient, aged nine years, had been vigorous and strong, until about eight months before Dr. Nelson saw her, having been able to carry large vessels of water, with ease and cheerfulness. At that time she began to complain of pain and tenderness over the abdomen, which, by and bye, became very hard, and she gradually lost flesh and strength. A fortnight previously her bowels had become much relaxed, and the slimy mucous stools increased, in spite of medicine obtained from the shops. Her mother had died of consumption. She was sent under the care of Dr. Nelson, by an apothecary of the town.

Symptoms.—On examination she was observed to be excessively pale and thin, with black hair, and large black intelligent eyes, expressive of a more advanced age; the tongue was very clean and red; there was no headache, sickness, or cough; the abdomen was hard, incompressible, and immovable, and obtusely tender under pressure, but no knottiness was observable. She had little or no appetite. There were frequent slimy stools; pulse, 140.

Diagnosis.—That there was tubercular peritonitis, which had led to adhesions, and, subsequently, to dysentery.

Treatment.—This was simply conducted on the principles of continuous counter-irritation, along with alteratives and astringents. She took mercury with chalk, and infusion of catechu; when necessary also cod-liver oil, and carbonate of iron, while a succession of blisters was laid over the abdomen. By these means the exhausting dysentery was subdued, and the internal tenderness lessened; but still she continued to lose flesh from day to day, and the abdomen was as hard as ever. A few days before her death she sat by the side of the fire, even while reduced to little more than skin and bone. The abdomen was hard as before, and somewhat tender under pressure. She was ghastly pale. The cheek-bones, &c. were very prominent, and the eyes appeared so preternaturally large that she had quite the aspect of an unfledged bird. Pulse still 140. She died tranquilly.

Autopsy.—The intestines were universally adherent to the parietes of the abdomen, and to each other, looking like an amorphous decayed mass, so that they could not be separated. The intermediate layer of morbid structure, but especially under the recti and adjacent muscles, consisted of large cake-like deposits of white matter, about one-third of an inch thick; while, elsewhere, there were seen round patches of the same exudation, each about the size of a finger-nail, exactly resembling, in appearance, boiled white of egg, and shaped like a flattened drop of melted wax. Similar appearances presented themselves in the right pleura, where old adhesions had occurred, and also in the mesentery, &c. In short, wherever inflammation had occurred, this matter was deposited within the accidental tissue. There was a small deposit of the same kind at the superior portion of one of the kidneys. The heart was very small, and there was some pericardial effusion. The left lung, on opening the chest, collapsed backward into a small size against the vertebræ. The right lung had the above-described small patches, resembling melted wax drops, between the adherent reflexions of the costal and pulmonary pleura; but there was no vestige of tubercle in the lungs themselves.

Observations.—This case was so bad in itself, and so far gone, that no hope could be entertained from treatment. The chief interest lies in that which was revealed after death. It was, at first sight, astonishing to consider how any individual could have lived under such a condition of body. It is very interesting to observe how the immense cakes of tubercular deposit, under the recti, as well as the smaller patches elsewhere, were all confined to the interstitial adventitious tissue, which, in former inflammation, had glued the parts to one another. This was exhibited more perfectly in the chest than in the abdomen, though to far less extent; for there was great difficulty in dissecting the latter, whereas, in the former cavity, the lung could be easily drawn from its adhesions, and then the tubercle was seen deposited in the accidental areolar tissue. The entire freedom of the parenchyma of the lungs from tubercle is a very notable fact in this case.

ABERDEEN INFIRMARY.

(Communicated by WILLIAM PIRRIE, Esq., F.R.S.E., Regius Professor of Surgery at Marischal College, Aberdeen.)

LITHOTOMY, FOLLOWED BY PHLEBITIS; RECOVERY.

SEEING in THE LANCET a short time since the account of a case of phlebitis, commencing in the calf of the leg, a fortnight after the operation of lithotomy, by Mr. Bransby Cooper, I think it may not be uninteresting to record a case which in many respects, though happily not in the fatal issue, bears a striking resemblance to the one referred to above.

On the 29th of June last I performed in the Aberdeen Infirmary, the lateral operation of lithotomy, as practised by Mr. Liston, on two men, who had laboured under stone for a considerable period.

One of these, George B——, aged fifty-eight, fisherman, from whose bladder one calculus was taken, left the hospital, cured, on the 16th July, seventeen days after the operation.

The other patient, Charles H——, to whom this communication more particularly refers, is a country blacksmith, sixty-nine years of age, fat, cheerful, and healthy-looking. Two calculi were removed from his bladder with great facility, and all went on without a single untoward symptom, general or local, until the thirteenth day after the operation, when a severe attack of phlebitis interrupted his recovery. It commenced in the calf of the left leg, and extended up the posterior and inner aspects of the thigh, the upper third of the latter remaining for some days quite unaffected; and great pain was felt along the course of the veins. Shortly afterwards the whole limb became enormously swollen and exceedingly tense. The attack was characterized from the first by very great depression, which forbade any form of depletion. The treatment accordingly consisted of, attitude so as to relax the inflamed vessels and favour return of the venous blood, large blisters to the back of the leg, fomentations and poultices. Mercury was given at first, but was soon succeeded by wine.

At the present date (31st July) all signs of active inflammation have disappeared for several days, and the swelling and tension of the limb have completely subsided. The depression also, which accompanied the phlebitis at its advent, has along with it passed away. The wound was unaffected throughout, and is now almost healed, all the urine coming by the urethra, except a few drops which occasionally appear in the perinæum.

Though accustomed frequently, both in hospital and private practice, to administer chloroform in lithotomy, and other painful operations, I did *not* employ it in either of the above instances, refraining from its use, as I often do, where the patient is advanced in life, and the operation is expected to be brief.

Between Mr. Bransby Cooper's case, and the one narrated above, two points of difference will be observed.

First. In the former, four days after the operation, some urine became infiltrated into the cellular tissue of the perinæum, which led to sloughing of part of the scrotum, this happening before the occurrence of phlebitis, while in the latter, the wound had not been affected in the least degree since the operation, further than, no doubt, having its closure much retarded by the phlebitis and consequent constitutional disturbance.

Second. In the former the severity of the disease, which latterly was not confined to one limb, proved speedily fatal in spite of all treatment, while in the latter the disease happily did not extend beyond the first-affected extremity, and was subdued by the suitable remedies, though for a few days the issue of the case was very doubtful.

I will now briefly advert to the points in which the two cases resemble each other.

1st. In both of them phlebitis commenced a fortnight (sixteen days in Mr. Cooper's case, thirteen days in mine) after the operation of lithotomy. 2nd. The part first attacked was in each instance the calf of the leg; and 3rd it may be proper to add that in neither had anæsthesia been induced. I have never previously observed phlebitis in such a situation after lithotomy, and where, as in the present case, the wound and surrounding parts remained healthy throughout.

There has been only one case of pure phlebitis (which was traumatic) in the Aberdeen Infirmary lately, but several have occurred in connection with erysipelas, which has been rather prevalent for some time.

Foreign Department.

On Tuberculosis of the Superficial Lymphatic Glands.

SCROFULA affecting lymphatic glands, says M. LEBERT, in the *Gazette Médicale de Paris*, may be called a tuberculosis of the superficial lymphatic glands. The tubercles which are there deposited soften very rapidly through the inflammation and suppuration set up in the surrounding parts. These tuberculous glandular enlargements consist of a series of chronic inflammations which point to a morbid state of the whole organism. Superficial tuberculosis exists very often alone without any scrofulous complications; but the two forms have, according to M. Lebert, a tendency to combine with each other, though he maintains that a great difference exists between glandular tubercles and the internal tubercular deposits, as far as prognosis and development are concerned. The first may, namely, exist a long time without danger, and be subsequently eliminated; but the latter always tend to a fatal termination. It is likewise to be noted that scrofula may arise spontaneously, but tuberculosis is hereditary; the prognosis of the former being favourable unless the bones or joints be affected.

Suppuration is the surest means of the elimination of external tubercles; they rarely assume the cretaceous form, and often remain in the crude state. Favourable hygienic circumstances act the more effectually, as the patients have been more destitute before. There is no remedy, says M. Lebert, capable of exciting the absorption of crude tubercles. Iodine improves the state of the system at large, but does not dispel the tubercles; and it should be borne in mind that diarrhœa and dyspepsia are counter-indications to the use of pure iodine; the iodides are, in such cases, to be preferred. Fish oil is without influence, though it may be useful by its action on the various scrofulous complications. Calomel merely arrests inflammatory symptoms. Tonics and bitters are suited to delicate constitutions which are being exhausted by long continued suppuration; and steel and quinine are then advantageously added. Sulphureous, briny, and iodine baths improve the system, but do not destroy tubercles. The same may be said of hygienic precautions.

Pus in Rheumatic Joints.

M. ANDRAL lately brought forward the case of an old woman who died whilst labouring under a rheumatic inflammation of both shoulders; these joints were found full of pus. But it is to be noted that the patient was just recovering from a violent attack of pneumonia. M. Trousseau, excited by this example, has also published the case of a child, six years old, who died of scarlatina, with rheumatic inflammation in almost all the joints. Pus was found in all these articulations.

Dangers from the Ergot of Rye as regards the Fœtus.

At the meeting of the Academy of Medicine of Paris, of Oct. 1, 1850, M. **Danyan** read the Report of a committee, composed of Messrs. Orfila, Adelon, Villeneuve, P. Dubois, Mérat, and himself, in answer to the following question put by the Prefect of the Department of the Seine to the Academy: "What is the influence of the ergot of rye on the life of the children, and of the mothers?" This long, instructive, and clever report closes with the following conclusions:—1. Though the ergot is a valuable remedy, it may, when imprudently administered, bring on the death of the child, and cause lesions of a more or less serious character, as to the mother. 2. In the present state of the law it is impossible to prevent midwives from giving the ergot; great inconvenience would, besides, arise from such a prohibition. 3. It would be desirable, when the new medical law is promulgated, that the standard of education of midwives were raised, and limits assigned to their prescriptions. 4. The publicity which the Prefect wishes to give to this Report will be promoted by the Academy, by insertion of the document into the *Bulletin*, but the Academy can only *suggest* to the medical press to aid in making the Report extensively known.

It should be noticed that the attention of the Prefect (a sort of civil governor of the whole department) had been directed to the large number of children who perished after the culpable or neglectful use of the ergot, and hence his wish to be enlightened on the subject. When will the government in this country consult in the same manner either the Colleges of Physicians or Surgeons, or the Medico-Chirurgical Society? In a midwifery question, like the present, the Colleges, owing to their disdain for obstetricy, would have been incompetent. The absurd system of midwives, in France, will, in spite of the most talented reports, not diminish the evil complained of.

A Succedaneum to Sulphate of Quinine in Intermittent Affections.

Dr. **Baud**, a French physician, is on the eve, as he supposes, of superseding the well-known quinine salt, with a preparation which he calls hydro-ferrocyanate of potash and urea. He calls upon his medical brethren to give this new salt a trial, and states that in his own experiments he has found it arrest periodical affections, especially intermittent fever, with an almost unfailing certainty. Whether this compound will be found as efficacious in other hands as it has been in those of Dr. Baud, time will show; the preparation of the salt has, at the same time, not been made public, the distinguished chemist, Mr. Henry, having been exclusively entrusted with the secret. This precaution does not look well, and raised some suspicions in the mind of a French apothecary, who, having bought some of the sweetmeats containing the salt (a favourite form among French phamarciens), analyzed this hydro-ferrocyanate of potash and urea, and came to the conclusion that there was no urea in it. This result was made public in *L'Union Médicale*, and at once refuted by Mr. Henry, who showed very satisfactorily that the analysis had not been conducted properly. At all events, it is clear that the remedy will not be tried so extensively as it should be, since the manner of preparing the salt has been kept secret by the author.

Treatment of Sciatica.

So respectable an authority as M. **Malgaigne**, of Paris, has lately been publishing cases of sciatica, which were cured by cauterization of *the lobe of the ear*. From various accounts which have appeared in the medical periodicals of France, it would appear that this somewhat far-fetched counter-irritation or derivation is of old origin, and has been lately revived. It is confidently stated in the *Revue Medico-Chirurgicale* that a great proportion of cures has been obtained.

Citrate of Caffeine in Hemicrania.

Dr. **Hannon** advocates very strenuously the use of the above salt in hemicrania. We find in the *Presse Médicale*, of Brussels, two long articles on the subject, with some cases and a good description of the caffeine and its preparation. It is to be given in doses, varying from five grains to one drachm; and the author has added formulæ for administering the citrate in the shape of pills, syrup, draught, lozenges, &c.

Magnesia as an Antidote to Arsenic.

M. **Lucas**, of Beauvais, gave large doses of calcined magnesia to nine persons who were poisoned by bread containing arsenic; they had very severe symptoms, but all recovered.

An Ale-Glass in the Vagina.

M. **Janssens**, of Ostend, had some time ago occasion to withdraw an ale-glass from the vagina of a woman, thirty-three years of age, and separated from her husband. She said that she sat upon it by mistake, but her tale was not believed. The glass measured two inches and a half in diameter and about three in height. The extraction, which was difficult, was effected by the obstetric forceps.

Biographical Sketch

OF

SIR JAMES M'GRIGOR, BART.,

K.C.B., K.T.S., M.D., F.R.S.,

DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE ARMY.

The development of Military Medicine and Surgery offers one of the most interesting subjects of study in the whole science of medicine. In military medical service, there is required not only a knowledge of professional science and practice, but the exercise of great administrative capacity. Disease is not only to be treated, under every contingency of climate, hardship, and privation, and the casualties of actual war; but preventive medicine, that which Lord Bacon called the godlike part of physic, has to be exercised, in relation to large masses of men, and under every conceivable variety of circumstances. It was from the experience and sagacity of army and navy surgeons that the sanitary reforms, now matter of every-day consideration, originated. It was the military surgeon who first, as it were, held in his hands the hygiene of large bodies of men. It was in this department of the profession that a class of men arose whose duty was not to treat individual cases of disease, but to deal with the causes and prevention of large classes of diseases. Among these men,—the Jacksons, the Pringles, and the Blanes,—Sir James M'Grigor, whose life we propose to sketch, must ever hold a very high rank.

We cannot do better than quote from a brief memoir of Sir James, published in 1839 by Mr. Pettigrew, the account of the birth and education of the future director-general of the British army:—

"Sir James M'Grigor is a native of Cromdale, Strathspey, Inverness-shire, and was born in April, 1771. He is the son of Mr. Colquhoun M'Grigor, a respectable merchant of Aberdeen, and Miss Grant, of Lithondy, both natives of Strathspey, Inverness-shire, North Britain. He received his education at the Marischal College, Aberdeen, where he took the degree of Master of Arts, having attended the instruction of those celebrated professors, Campbell, Beattie, and Hamilton. From Aberdeen he went to the University of Edinburgh, being destined for the medical profession, and he studied under Professors Black, Monro, and Gregory. He also came to London to perfect his knowledge of anatomy, and attended the lectures and demonstrations of Mr. Wilson, in Windmill-street."

From the same authority, we learn that he took, in 1793, when he was twenty-one years old, the degree of M.D., in Marischal College, Aberdeen.

We find that Sir James M‘Grigor entered the army in 1793, by the purchase of the surgeoncy of the 88th Regt., or Connaught Rangers, it being the custom in those days for medical as well as military officers to purchase their commissions. His first service was in the Netherlands, in the army, under the late Duke of York. On the return of the army from the Continent, the 88th Regt. was sent to the West Indies, from whence it returned in a very shattered state; but after its ranks had been again filled up by fresh recruits, it was sent to India, whither the subject of our memoir accompanied it. After the storming and capture of Seringapatam, an army was formed, composed of regiments of the King's troops, and of the Company's European and Native troops from the three Presidencies of India, and sent on an expedition to Egypt. Sir James M‘Grigor was appointed chief of the medical staff of that army, and on his return to England he gave to the public a volume under the title of "Medical Sketches of the Expedition from India to Egypt."

This Expedition to Egypt was one of the most remarkable in modern warfare. The idea of transmitting native troops from the banks of the Indus and Ganges to the Nile to oppose the soldiers of Napoleon is astounding. That Sir James M‘Grigor should be selected for the medical care of such an Expedition shows how high a reputation he must already have obtained in India.

During the presence of the army in Egypt, the plague attacked the troops on their reaching Rosetta and Alexandria, so that, in addition to the ordinary labours of the medical chief, this formidable foe had to be combated. A board of health was formed, of which he was the only medical member.

In 1809 he was sent to the disastrous Expedition in Walcheren, as chief of the medical department, to relieve that able officer, Sir John Webb, who was sent to England in a hopeless state from the effects of the fatal fever which committed such awful devastation in the ranks of our army there.

In 1811 he succeeded the late Dr. Frank as chief of the medical department of the army in the Peninsula, under the Duke of Wellington, and remained with it till its return to this country; and on the retirement of the late Dr. Weir in 1815, he was appointed Director-General of the Army Medical Department.

Such long and varied services, of which the above is the merest outline, necessarily present many points of interest, and would well deserve a lengthened biography. It is for us to seize the most striking points which are known, or which we have ascertained, respecting the life of Sir James M‘Grigor.

The following anecdote is highly interesting and characteristic; we believe it may be implicitly received:—When the attack upon Seringapatam was contemplated, the authorities found that the gunpowder was not to be depended upon. It became necessary to examine the gunpowder, to detect the cause. The authorities advertised for some persons to analyze the powder, and Sir James undertook the task: he soon discovered that the fault lay in a deficiency of charcoal in the manufacture. Of course the mistake was soon rectified, without which the storming of Seringapatam would have been less successful. This important circumstance, which occurred soon after his arrival, was, no doubt, one of the first things which brought him into notice, and led to his being looked upon as a rising officer by the authorities in the East.

Sir James served in the Blues for a short time, when he was removed to the staff, and placed at Portsmouth, to superintend the landing and disposition of the enormous number of wounded sent home from Sir John Moore's army at the retreat to Corunna. This was, for the time it lasted, one of the most arduous and painful duties he ever had to perform; the condition of the men was truly dreadful. At this station he continued until he was removed, at an hour's notice, to Walcheren.

It is a current story, amongst army medical men, that George III. invited the officers of the Blues to a party at the Palace, while Sir James was surgeon to this regiment; and as the King was walking among the officers, his Majesty noticed Sir James M‘Grigor as being dressed differently from the others, wanting some of the ornamental parts of dress worn by his comrades. The King asked him, suddenly, "Why have you not your girdle on?" To which question, it is said, Sir James replied, "I am not allowed to wear one, your Majesty." The King answered, "I will have all my officers dressed alike." But we do not know that any change followed this resolution.

On his return from Walcheren, he was again sent to Portsmouth, to superintend, medically, the embarkations almost daily taking place for the Peninsula. His duty here was to proceed to Spithead, and see that every ship which embarked was in a proper state to receive men,—that the troops themselves were healthy, and fit for immediate and effective service with the army in Spain,—and to learn that the medical officers were provided with everything necessary for the casualties of the voyage, and conversant with the duties they were likely to be called upon to discharge. Thus was he occupied until he himself embarked, in 1811, for the Peninsula, to take the charge of the medical department of our army in Spain.

Sir James M‘Grigor has twice suffered shipwreck; on one occasion, when he went to Walcheren, on board an eighty-four, in which he was sent specially to succeed Sir John Webb, accompanied by many other medical officers. The crew were saved with difficulty, and the ship, one of the finest in the service, was brought home a mere hulk by some other vessels. The second shipwreck also happened during the performance of his official duties. When in the West Indies an army was formed of five or six regiments to attack Grenada, then held by the French. To this army Sir James was appointed principal medical officer. After the capture of the Island, when he was removing to another station in a small sloop, the vessel was wrecked, went to pieces, and great exertions were necessary to save the persons on board.

Sir James M‘Grigor married, on the 23rd of June, 1810, Mary, youngest daughter of D. Grant, Esq., Lingeistone, county of Moray, by whom he has now living two sons and one daughter. Time has not chilled the affection of Sir James and his excellent lady, and at the present time, after an union of forty years, the most loving and affectionate regard subsists between them. Of this, the writer of the present memoir has become aware of some touching proofs, but he forbears to lift the veil from an attachment so consecrated and ennobling.

As a proof of the respect in which Sir James is held by the military officers of all ranks, we may quote the following, which is but one of many such incidents with which we are acquainted. A few days since, a professional gentleman, a friend of our own, visited a a major suffering from a severe affection of the chest, to which he has been subject periodically since the lungs were severely wounded by a musket-ball at the storming of Badajos. The officer, after narrating his sufferings, and remarking on the nature of the injury he had sustained, suddenly inquired, "How is Sir James M'Grigor?" Being informed he was tolerably well, the major observed, "*We of the old times worshipped that man!*" The last words were uttered in a faltering tone, and followed by a flow of tears; when the nerve and firmness of the veteran returned, he added, "*I love him, I love him!*" They must have been no common qualities which could impress a youth of sixteen so forcibly, for the officer in question, though now grey in the service, was a boy of that age when indebted to the services of Sir James.

Sir James, during the thirty-five years he has filled the office of director-general, has had, not only the entire direction of the medical affairs of the army, but during the latter part of that time has also had much to arrange in reference to the civil medical matters of our colonies; for a long time past, all points on which a matured medical opinion has been considered necessary, have, we have reason to believe, been referred, by her Majesty's Secretary for the Colonies, to Sir James, for his opinion and advice.

The army and the state owe the splendid pathological museum at Chatham to the indefatigable exertions of Sir James M'Grigor. He began this important matter when inspector at Portsmouth in 1810. He has always been most solicitous respecting the museum, and its removal to London, that its usefulness and application to science and practice may be increased. His anxiety to promote the utility of the museum is evinced by the series of beautiful engravings of the most important pathological specimens, which has been published, and which is now in the hands of every regimental surgeon in the service. It is well known that at the instigation of Sir James it was proposed that eight days' pay should be paid by every medical officer, according to his rank, to a fund, the object of which should be to remove the Chatham museum to a suitable building in London. It was considered that in this way £4000 might be raised, and that then the medical department, after showing such an example of zeal for the benefit of the sick and wounded soldier, might appeal to Government with some hope of aid in establishing the museum in London. At the present time £3,600 have been raised. Some object to this plan, and maintain that the Government should take the initiative. Among the latter, we believe we may rank Sir G. Ballingall, whose noble endeavours to obtain a profession of military surgery in London and Dublin are above all praise. But about the propriety of the removal of the museum from Fort Pitt to London there is no difference of opinion. There is nothing, we conceive, which would more tend to raise the status of the soldier-surgeon than a special education in military surgery. Now the subject of the Order of the Bath has been disposed of, this is the uppermost question in military medicine and surgery. We ought not to omit to state, that, besides the pathological engravings, a complete catalogue of the Chatham preparations in morbid anatomy and physiology has been published at the instigation of Sir James M'Grigor, under the able editorship of Dr. Williamson. This catalogue extends to upwards of 3000 preparations, which had been accumulated in 1845. But since that time the museum has been still further enriched by preparations sent home by military surgeons in different parts of the world.

According to the report already quoted, we find, that in May last, the museum consisted of 5888 specimens in natural, morbid, and comparative anatomy, and comparative physiology; 19,262 specimens of the different classes of the animal kingdom; 8561 vegetable specimens; 6871 specimens in mineralogy and geology; and 988 works of art. The desiderata for the museum, and also for the library, are constantly announced to military physicians and surgeons, so that both are rapidly increasing. Every present, even to the most minute, as we ourselves have had experience, is acknowledged by letter, bearing the signature of the Director-General.

The salary of Sir James M'Grigor, as Director-General of the Army, is, we believe, £2000 a year. Is this, with his baronetcy, and the K.C.B., grudgingly conceded in the 79th year of his age, and after fifty-seven years of public service, more than he is entitled to? Is it, indeed, an adequate reward? Had he joined the peninsular army as a major, instead of as the head of the medical department, he would long ago have been a peer of the realm. Yet the post of Director-General is the very highest a medical officer, whatever his talents or services, can aspire to. The hygienic condition of the army of the peninsula was one of the causes which led to the assertion of the supremacy of our arms, and to the thirty years' peace with which we have been blessed. Of all the men of British birth, who owe their fortunes to the success of our armies, there is scarcely one more deserving than Sir James. His services have not been limited to one war, or to one continent; he has served his country well and faithfully, and with abilities of the highest order, in the four quarters of the globe; in the East and West Indies, in Africa, on the Continent of Europe, and in his own country, as we have said, for more than half a century.

As an author, Sir James has not been very voluminous, but he has published sufficient, both as regards quantity and quality, to have given him character and reputation as an observer, recorder and analyst of medical facts, as the slightest attention to the following list of his productions will show:—

In 1801, he presented to the Bombay Medical Board a "Memoir on the State of Health of the 88th Regiment, and the Corps attached to it from June, 1800, to May, 1801."

On his return to England, after his services in India and Egypt, he published, in 1804, "Medical Sketches of the Expedition from India to Egypt."

In the year 1808, he published a letter of Reply to Dr. Bancroft, who had published some strictures on the Fifth Report of the Commissioners of Military Inquiry.

In 1810, he published, in the sixth vol. of the *Edinburgh Medical and Surgical Journal*, some valuable observations on the "Fever which appeared in the Army from Spain on their return to England in 1809."

His next publication of importance was a folio volume in 1838, entitled, "Statistical Reports on the Sickness, Mortality, and Invaliding among the Troops in the West Indies; prepared from the Records of the Boards of the Army Medical Department and War Office Returns."

In the following year he published "Statistical Reports on the Sickness, Mortality, and Invaliding among the Troops in the United Kingdom, the Mediterranean and British America. This also was in folio.

His next, and perhaps most interesting publication, is a paper which appeared in the sixth volume of the *Medico-Chirurgical Transactions*, being a "Sketch of the Medical History of the British Armies in the Peninsula of Spain and Portugal during the late Campaigns."

The mind of a man, in its chief features and capacities, is often seen in his earliest efforts. We see in the "Regimental Report," published in India, half a century ago, when surgeon of the 88th regiment, the germ of those labours which have created his fame as Director-

General. All his works indicate the man capable of attending to the minutest details, and yet fitted to grasp the largest ideas, and bend them to subserve to the health and happiness of his fellow creatures. These qualities enabled him to deal as efficiently with the vast concerns of large armies as with the medical and surgical details of a single company.

In height Sir James is about five feet nine inches.—With the exception of occasional attacks of gout and sick headache, he enjoys excellent health. Those who know him declare that his mental activity at the present time is most remarkable. It remains for us to say something of the mental characteristics of Sir James. Every act of his life testifies to the possession of a most sound judgment; his memory of persons and things is astonishing. We have heard it declared, by those who are well acquainted with him, that he knows and recollects personally every medical officer of the army whom he has once seen. His extensive personal knowledge of civil-medical men is remarkable.

To a wise judgement he adds a singular quickness and acuteness of perception. Let a subject be ever so intricate and perplexed, he at once comes to the difficulty and solves it. His acts are marked by the absence of all indecision or hesitation. His popularity with the army medical officers is very great; ever accessible and ready to serve the interests of all to the best of his ability and their deserts, and his conduct has ever been marked by the most liberal hospitality to his brother medical officers, particularly on their return from foreign stations. He has ever exerted himself to promote good feeling between military and civil medical men, promoting the interchange of kindly offices between them by every means in his power. By precepts and by example he has laboured to infuse into military surgeons a desire to renew their professional knowledge at all proper opportunities. He has himself attended as a pupil in the medical class-rooms of the metropolis since he became director-general! His efforts in the cause of medical education have been unceasing: and by gradually raising the standard of qualification for the medical service of the army, he has raised this important branch of the profession to a high pitch of excellence.

We have said nothing more than the simple truth in this necessarily brief sketch, but we have said enough to show that Sir James M'Grigor possesses qualities sufficiently eminent to fit him for greatness in any station of life. He has long been one of the pillars of the profession, and whenever he may pass from amongst us, it will be difficult, if not impossible, to find a successor equal to him in every respect.

A Glance at the Introductory Lectures

DELIVERED IN THE

LONDON AND PROVINCIAL SCHOOLS OF MEDICINE,

AT THE OPENING OF THE SESSION 1850.

GUY'S HOSPITAL.

The introductory lecture was delivered by Mr. **Bransby Cooper**, the room being crowded with pupils, former alumni, and professional men. The lecturer was very warmly received. He began by urging upon the pupils the necessity of applying themselves to their studies with untiring industry: they were not to suppose that knowledge would be acquired in a sudden manner; long-continued struggles, slow and sure progress, perseverance, and constancy of purpose, were demanded for storing the mind with medical knowledge. No advantage is ever gained without proportionate exertions, and success is generally the recompense of steady and continued efforts. The acquirement of medical and grammatical knowledge had some analogy. The latter generally appeared very confused at first, but when the value of words, and the relation they bear to each other, were beginning to be understood, the mists were dispelled. The study of medicine would likewise, at the onset, present some difficulty, but this would gradually clear away, and the inquiring mind would be presented with numerous subjects affording intellectual enjoyment. One great point was the due appreciation of the value of time; the habit of putting off application and attention to medical studies to a later period being a fearful mistake.

It would naturally be expected that he, (Mr. Cooper,) as a surgeon himself, should first direct their attention to that branch of medical science, and he would begin by observing, that surgery had now reached a state of completeness which was highly creditable to modern times. Students should first apply themselves to learn the action of remedies, for without this knowledge the surgeon's practice will be very imperfect; in fact the surgeon should himself be a physician, and it might be noticed that over all the Continent of Europe, surgeons were doctors of medicine. The intimate relation between medicine and surgery was called in question by no one: these branches of the same science were separated for the sake of convenience only.

As to preliminary studies, let students first be well acquainted with the human structure in a state of health, they will then be properly prepared to study the deviations from the normal condition. It requires no small acuteness to distinguish the various symptoms by which disease is detected, and it is not an easy task to ascertain where health ends, and the morbid state begins. Here Mr. Cooper quoted largely from "Gregory's Conspectus" as to the characters of the human organs in health. The complexity of the human organism was infinite, and the first step of the student was, therefore, to become acquainted with anatomy, which is the science of organization, and the basis of every branch of medicine. There cannot be any doubt that the discoveries in anatomy have dispelled much of the obscurity which overhung medicine, and thereby contributed in a high degree to the advancement of that science. The next branch to be acquired was *morbid* anatomy: these two branches of medical knowledge should, for the first year, exclusively fix the attention of the pupil, who might then engage upon physiology, as it is founded upon anatomical facts.

Physiology had of late made very rapid strides, and it should be acknowledged that that science was powerfully aided by chemistry. The third support of the tripod upon which surgery rests is pathology: this should not be confounded with morbid anatomy, since the latter is to pathology what healthy anatomy is to physiology. Pathology will assist the practitioner in the study of symptoms in such diseases as hydrophobia, tetanus, and fever, &c.; morbid anatomy will be of service in such a complaint as Bright's disease. Mr. Cooper endeavoured to impress upon the students how necessary it was for them to become familiar with the use of the microscope, as well as with chemical manipulations.

The application of anatomy, physiology, and pathology, to the cure of disease would next fix their attention; and as most pupils would eventually be called to practice both medicine and surgery, they should apply themselves diligently to both these sciences, the distinction between the two being merely arbitrary. They should notice that surgery does not solely consist in the performance of operations: diagnosis and discriminate treatment were far more important. Pupils should not be carried away by the brilliancy attached to operations, but consider that the surgeon ought, above all things, to consider the ultimate good of his patient, irrespectively of any other matter; and that there is more praise due to the surgeon who saves the limb than to him who removes one. Manual dexterity should, however, not be neglected, for through its agency life is very often preserved; and it may even happen that the surgeon's operative skill is required solely for prolonging life, an object which is not of small importance. His young friends should recollect that in general practice they would be more physicians than surgeons; they should therefore be diligent in the medical wards, and study symptoms, under the able men who had the charge of medical cases. He (Mr. Cooper) would illustrate the advantages of careful observation by a case where Dr. Addison's powers of diagnosis were conspicuously shown. A patient had been admitted with an affection of the larynx, of an obscure nature. Dr. Addison's opinion was sought, and this physician concluded that there might be pressure on the recurrent laryngeal nerve by an aneurism; though no tumour nor peculiar bruit could be recognised. The patient died, and this diagnosis was found correct. He (Mr. Cooper) thought that no greater victory was ever gained in the difficult science of diagnosis than had happened in this case.—(Great and prolonged applause.)

Students, besides endeavouring to become familiar with disease at the bed-side, were exhorted by the lecturer to keep a guard on their moral conduct, and strive to become worthy and useful members of society; to avoid selfishness, and cultivate kindness and gentlemanly consideration towards all, and especially towards their professional brethren. Medical men should never detract from each other's character; and when faults are committed it is more generous to guard the tongue, and throw a friendly veil over involuntary error, than disclose it to the world. No man ever elevated himself by lowering another man's character.

Mr. Cooper then advised his young friends to practise the *suaviter in modo*, but not to fear, when they judged it necessary, to employ the *fortiter in re*. They would, he hoped, always deport themselves as gentlemen, and, far from concentrating their whole thoughts and anxieties upon this world, prepare themselves for the next, by putting into practice the precepts of religion. Mr. Cooper's address was listened to with the greatest attention, and was, at its termination, followed by marks of universal approbation.

ST. THOMAS'S HOSPITAL AND COLLEGE.

THE majestic hall of this hospital was filled, by a large audience, composed of governors, professional men, friends of the institution, and pupils. Dr. GREGORY delivered the introductory address, in an animated and perspicuous manner. He passed in review the various branches with which young men should be acquainted before they entered upon professional studies, as mathematics, the languages of antiquity, and at least one of the languages of the continent of Europe. He hoped that his young friends were properly qualified in this respect, and that the ground into which his colleagues and himself would have to throw the seed had been duly prepared. [We fully concur in Dr. Gregory's opinion, but cannot help remarking that much advantage would be gained, if, at the various schools, a kind of matriculation examination were passed before pupils could enter for lectures, &c.; the ground would thus *always be prepared*, and medical education gain much by that circumstance.]

Dr. Gregory remarked, that the pupils, in choosing the medical profession, might judge from this "Act I., Scene 1," of the medical drama now about to be unfolded before them, that they had not chosen unwisely. They must not fancy that it was mere curiosity which brought this numerous audience before them into this hall; this was not an accidental circumstance, but one which showed the respect and interest which the public feel for our profession. They had chosen a liberal and noble profession, but he would warn them that there is no short road to medical knowledge; the science of medicine was, on the contrary, ever widening, and they had many difficulties to encounter. He (Dr. Gregory) would be sorry to deceive them; he would tell them the truth, and they must look upon themselves as forewarned. And after the conclusion of their pupilage, they would meet with onerous duties and perplexing anxieties, and ingratitude, where they might fancy themselves entitled to the warmest acknowledgments.

But the pupils of the present period had certainly privileges not enjoyed by those who had gone before them. Dr. Gregory then sketched out the history of medical education in ancient and modern times. [We regret to be compelled, from want of space, to abridge this interesting sketch.]

In modern times, the first school where medicine was regularly taught by lectures was that of Salerno, about the time of William the Conqueror. The first diplomas were delivered in that city, and pupils were then expected to continue their studies for seven years. Then rose, one after another, seats of medical learning, at Montpellier, Bologna, Paris, Rome, Padua, and Vienna. These were all in their turn celebrated; and it was a custom in this country to repair to Paris, Montpellier, or Italy, for medical education. Linacre, who founded the College of Physicians, had been to Italy; Sydenham received his education at Montpellier; and Pavia produced Harvey, as well as Eustachius and Fallopius. Leyden became soon conspicuous by the influence of Boerhaave, and the College of Physicians of London were beginning to take a share in medical education by the lectures which were successively founded, (the Lumleian, in 1581; the Gulstonian, in 1632; and the Croonian, in 1739.) It was in the Lumleian Lectures that Harvey promulgated, for the first time, his views of the circulation of the blood. Meade afterwards read Anatomical Lectures at Surgeons' Hall. Edinburgh, however, soon rose high in repute; there taught the Monros, and Dr. Gregory, his (the learned lecturer's) grandfather. It was there that the first clinical instruction was given, and Edinburgh reigned supreme for a long time, strangers from all parts flocking to her school. It was about that time that the well-known "Conspectus Medicinæ" of Dr. Gregory (the lecturer's uncle) was written—a book familiar to all students.

But he would now inquire, since these great seats of learning were principally intended for physicians, how the general practitioner was educated? At the time of the foundation of the College of Physicians many pretenders were exercising medicine, and their number was very large, if we are to judge from the preamble to the charter of that college. Restrictions were placed upon the practice of ignorant persons, but then, *as now*, permission to treat disease was granted to persons skilled in herbs, &c.—an Act of Parliament sanctioning intuitive medical knowledge, just as in our days we see it tolerated by the legislature. The two corporations of barber-surgeons were united into one under Henry VIII.; and at that period apprenticeship was the only education of the surgeon: A taught B; B in his turn taught C; and so on. The "Siamese" connexion of barbers and surgeons was, however, severed in 1743, and surgery took a higher standing. Any one could, in the meanwhile, act as an apothecary; but the greater portion of those who devoted themselves to that profession walked the hospitals out of decency, and took the examination at Surgeons' Hall quite voluntarily. Under George III., the latter became a royal college; and the number of diplomas granted, which at first could very easily be counted, gradually rose, until between 1840 and 1844, it reached the number of 2763.

Still anatomy and surgery were of course exclusively required, and very few pupils cared about being trained to medicine in the physicians' wards. Though the Apothecaries' Society was founded under James I., actual knowledge of medical diseases was not required, and the examinations consisted merely in the review of a few drugs, the chief function of the society being a very successful trade in the latter. The deficiency of this state of things being felt on all hands, the Colleges of Physicians and Surgeons were entreated to take the guidance of medical education. Both Colleges rejected the offer, and the training of those who were to enter general practice was entrusted to the drug society. And here the important question suggests itself—What would have been the result if the College of Physicians had taken up the education of general practitioners, and made them associates of their college? Still the Society of Apothecaries have done much for the profession, and have nobly fulfilled the task imposed upon them. They have greatly added to their fame by offering to retire, if an arrangement could be made that would conduce to the benefit of the medical body, and satisfy the greater number of practitioners. In 1837 a new impetus was given to medical education, by the foundation of the University of London, (its nuclei being University and King's Colleges.) Schools were now established in nearly all the general hospitals of the metropolis, as well as in the provinces, and medical education is now becoming more and more complete.

Dr. Gregory next inquired into the earlier history of the military surgeons, and stated that in the army of Henry V., when he invaded France, surgeons were looked upon as a kind of camp-followers, their pay being pretty well on a par with that of drummers and fifers. Later, towards 1764, a surgeoncy might be purchased like a commission, its value being about £600, no education or examination being required. In 1756 the Duke of Cumberland endeavoured to improve this state of things; and in 1793 the Army Medical Board was founded. The high standard of education now required was gradually arrived at since 1810, the merit of having placed army surgeoncies on such an honourable footing being mainly due to Sir James M'Grigor.

The learned lecturer now took a survey of the opportunities offered to the pupils in St. Thomas's Hospital: here the governors had liberally accumulated the best means of acquiring medical knowledge. As to the staff of the institution, he would remind them that when the Royal Academy sought the assistance of an eminent anatomist to teach among them the beauties and arcana of the human form, they found Mr. Green here; when the Board of Health wished to be enlightened in matters of public hygiene, they looked to St. Thomas's for Mr. Grainger; and when the City desired to appoint an efficient officer of health, they chose Mr. Simon from the staff of this institution.

Dr. Gregory stated that he did not pretend to solve so difficult a question as medical reform, but he would just point out the main considerations to be kept in view in the settlement of that question. He thought, in the first place, that medicine ought to be, as far as possible, looked upon as one faculty; it should be recollected that physic and surgery were closely allied in all countries. Regarding apprenticeship, Dr. Gregory thought that we had now outlived that custom, and that its entire abolition is desirable. Regarding preliminary training, he would remind his hearers that the ensigns of marching regiments are now expected to pass an examination comprising the subjects of a liberal education; and that aspirants to the medical profession could, at their first admission into the schools, hardly do less than imitate such an example. Let the standard of medical education be high; there will nevertheless be plenty of applicants; nay, if the College of Physicians were to institute voluntary examinations for the general practitioners, many would immediately incorporate themselves. The profession should take pride in the victory gained by our brethren the assistant surgeons of the navy; and remember that, however willing the Government may be to pay attention to just claims, its arm should not be paralyzed by our internal dissensions. Let peace and union reign among ourselves, and the rewards, now exclusively bestowed upon the clergyman, the lawyer, and the soldier, will not be withheld from us. The higher the standard of medical education, the more exalted will be the position which our profession will hold in society.

This lecture, enlivened throughout with touches of refined wit, was concluded amidst enthusiastic applause.

MIDDLESEX HOSPITAL.

After some preliminary remarks, in which the profession was shown to be in a false position in its relation to the public, and the principal cause of the success of quacks and impostors, whether mesmerists, hydropathists, or homœopathists, to be ignorance on the part of the public as to the scientific nature of medicine, as now studied, practised, and taught, Dr. Goodfellow indicated the principal discoveries that had been made in minute anatomy and physiology, during the past twenty-five or thirty years, and their influence on practical medicine and surgery. The first, in point of time, to which allusion was made, were the discoveries of Sir Charles Bell; next those of Dr. Marshall Hall, on whom he passed a well-merited eulogium. It was stated that before Dr. M. Hall's discoveries, "physicians had indeed, from a very remote period, been familiar with the fact that convulsions were very frequently brought on by the presence of irritating matters in the stomach or intestines, and by dentition; and the practice was in force of removing these irritating matters by laxatives, and the pain and irritation accompanying the eruption of the teeth by lancing the gums. This practice was, however, entirely empirical; no clear conception was entertained of the precise way in which these sources of irritation acted, nor of that by which the remedies were effectual in removing the convulsions until his discoveries. But these great advances made in the knowledge of the nervous system, important as they were practically, were comparatively small when contrasted with what the application of the microscope and organic chemistry to the study of the structure and functions of the tissues have revealed to us. By our increased knowledge of the structure of the liver and kidney, for example, we are enabled to appreciate abnormal states, which the pathologists of former days would in vain have looked for under the old methods of investigation; and we are indebted almost entirely to the complete and philosopical researches of Mr. Kiernan and Mr. Bowman, for our present knowledge of the intimate structure of these organs. The lecturer next alluded to the great discovery of Schleiden and Schwann, which for its important practical consequences was equal to, if it did not surpass, any other.

By it the real agents of secretion, absorption, and nutrition, were made known to us—namely, cells—which, from the early embryo, form the first elements of every tissue, and enact the same important processes in vegetative, as in animal development and growth. What was most calculated to excite our surprise was, the elective choice which these minute forms exercise; that while the composition of their walls were apparently and chemically the same, they were *potentially* different, separating from the blood the constituents of bile in the liver, those of the urine in the kidney, and of chyle in the intestines. After enlarging on the results of this discovery, and on what organic chemistry had lately done for medicine and surgery, Dr. Goodfellow concluded by earnestly exhorting the pupils present to cultivate an accurate and practical knowledge of minute anatomy and physiology, as being the only true foundation of medicine and surgery, and without which it was impossible to understand the principles of either. The more extensive their acquaintance with the processes of the body in a state of health, the more competent would they be to detect and appreciate any alteration in them occasioned by disease; and for a proper understanding of physiology they must be thoroughly acquainted with the intimate structure of the organs and tissues of the body.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.

The lecture was delivered by Dr. West, at seven o'clock in the evening. The theatre was so crowded in all parts that many visitors were unable to obtain admission, and in our seat in the gallery we were not altogether without an apprehension of sharing in such a catastrophe as happened at the late Eisteddfod. The president, the treasurer, and other officers, are ushered in with some ceremony at this college. Dr. West delivered a practical and well-composed oration, one of the salient points in which was the warning students that they were expected to become *medical practitioners*, and not proficients in chemistry, botany, or comparative anatomy, however necessary it might be that they should be acquainted with those sciences to a certain extent. They were to pursue them as auxiliaries, but no further, to the abstraction of due attention from other branches of science. Medical men were encouraged by the assurance, that if state honours were not lavished upon the profession they had chosen as upon those of the army, or the law, or upon successful commercial men, the sciences they cultivated, and the benefits they were called upon to confer on others, by the labours of their lives, were productive of loftier and more solid gratification than could attend mere worldly distinctions. At the close of the lecture, which elicited great applause, as did the presence of various officers of the hospital and college, the whole assembly took tea and coffee in the magnificent hall of the hospital, in which, probably, four hundred persons met together, and where numerous fine specimens in materia medica, and surgical instruments, preparations from the museum, &c., were collected for inspection.

UNIVERSITY COLLEGE.

The lecture was delivered by Mr. Erichsen to an assembly of about three hundred auditors. The lecturer dwelt long upon the indivisibility of medicine and surgery, and he expressed a hope that in future practitioners calling themselves surgeons would not be contented to practice their profession with a qualification for one branch of it alone, but that by undergoing an examination in medical science generally, they would give evidence that they were competent to undertake all branches of the healing art. However they might choose to devote attention afterwards to some branch more than the rest, he hoped they would not do so to the reprehensible exclusion of all the other branches, thus substituting for the comprehensive science of medicine a mere limited *specialité*. Mr. Erichsen entered at some length upon details illustrative of the present advanced state of surgery, the improvement in which within a late period he attributed to improved attention to physiology and anatomy, a simplification in the *armamenta chirurgica*, and the increased confidence of surgeons in the powers of nature to repair the effects of injuries and disease. It struck us that in his remarks on the foundation of good surgery being placed in a correct knowledge of physiology, the lecturer supplied a full and requisite antithesis to the arguments in Dr. Walshe's introductory lecture at the same place last year. Mr. Erichsen delivered friendly remarks to students on their general deportment and character, and observed that men had not distinction awarded to them by the world for professional ability unaccompanied by moral worth. At its termination he was greeted with the most enthusiastic cheering.

We augur somewhat better of the prospects of this college than on some former occasions. Recent arrangements, and the introduction of new members into the medical faculty, and the staff of the hospital, appear to have given general satisfaction; and amongst minor changes significant of improvement (in a department formerly very much neglected) it may be mentioned that the library for the medical students has been made not merely a respectable but even an elegant apartment.

CHARING-CROSS HOSPITAL.

Dr. Gavin delivered the introductory lecture, and particularly dwelt on the neglect of medicine in relation to the state, and how it had thereby come to be generally regarded as a mere *curative art*, while its vast powers and influences for the welfare of the people had been greatly overlooked. The injurious influence of this neglect of the application of medicine in the purposes of the state was shown in the political exclusion of medical men from all officers of trust and emolument, even in the administration of matters which were peculiarly their own province, and in the ungenerous want of a due appreciation of the value of medical services. He showed that when government or public boards consulted medical men, they used them as mere machinery, for the purpose of carrying out their own views, and with no design of making medicine yield all her fruits to society. Dr. Gavin paid a tribute to the noble conduct of the medical profession, particularly that portion engaged in the service of boards of guardians, during the late epidemic; and he pointed out their great sacrifices for the public welfare, and the unworthy and niggardly spirit with which these sacrifices had been met. He indicated the great field which would be opened up to the profession by a full recognition by the state of the valuable aid which it was capable of rendering. He contended, that to enable the profession to confer on society the sum of benefits of which it is capable, it required to be remodelled, not only in its internal organization, but also increased in its political importance, and that political importance could be acquired in no other way than by convincing the government and the public that great calamities had been, and ever must be, entailed on every community that neglects the application of those natural laws which govern the physical, and, with the physical, the moral and intellectual, improvement of the people.

As the study of these laws was the province of the physician, so, he contended, should be their administration. He advocated the establishment of a ministry of public health, and failing that, the appointment of a Director-General of the Civil Department of Public Health, and the transfer of the whole poor-law medical staff to this department, and pointed out the happy influence such a change would exert in improving the education and the social position of a large body of the profession.

When addressing himself to the education of the student, he forcibly advocated the necessity of a matriculation examination in place of a mere inscription of names, and of instituting a chair of military medicine and surgery. He showed how, by these means, the interest and progress of the students would be greatly promoted; and how by the last they would be enabled, on entering practice, to assume positions with a degree of confidence and satisfaction which at present, on account of the application of medicine to the wants of bodies of men not being taught in our schools, they found themselves indifferently qualified to occupy. With this chair he associated the name of Guthrie.

He pointed out to the students the importance of steady perseverance, and a strict discipline of the mental faculties, and assured them that the acquirement of professional reputation began, not on entering on the practice, but on the study of the profession.

WESTMINSTER HOSPITAL.

The session commenced with an introductory lecture by Mr. Benjamin Phillips. The board-room was fitted up for the occasion, and there was a full attendance of governors and pupils. The object developed by the lecturer was to show the advance which had been made by medicine since the olden time, as evinced by the extension of life. He admitted that he could not show by conclusive evidence that life had been extended in Greece; there was only analogy to support this. He could not show how large a mortality had occurred in the sixteenth century in our own country; but he could show, beyond all question, that since the beginning of the seventeenth century, the mortality in the metropolis had lessened about sixty per cent., and he maintained that it was mainly owing to improved treatment, and improved sanitary regulations suggested by medical men. He further showed, conclusively, that to the efforts of medical men alone certain ameliorations must be referred. Thus, in 1800, the population of the metropolitan districts was 900,000, and the deaths from small-pox, were 2409. In 1830, when Jenner's remedy was generally used, the population having nearly doubled, the deaths from small-pox were but 627. After some further apt illustrations of the influence of medicine in lightening mortality, he emphatically observed: "These services cannot be reregarded otherwise than as of great value, and should meet with their appropriate rewards in either honours or emolument in every country where great services are acknowledged. And in this country all who merit well meet with their reward, except the medical man." The clergyman might acquire rank, next even to royalty, and possess a princely income; the warrior might gain a peerage and a pension; the lawyer become Lord Chancellor, with a large present income, immense patronage, and a pension in reversion. The medical man could never entitle himself to a pension or a peerage. He might be gentle born; he might be highly educated—a first class man of his year; he may have toiled long in his country's service; he may, like Jenner, have "stayed a plague;" his reputation may be worldwide, but no pension may gladden his heart—no coronet encircle his brow. He may have toiled in the endeavour to improve the sanitary condition of his country; may have exhausted a lifetime in developing the evils of intramural interments; may have lived to witness the triumph of his principle, and have even forced upon Government the necessity of forming a board to carry out remedial measures, but no place even at that board will be found for him. These things could not fail to burn in the medical man's mind. Still he pursued his benevolent course undismayed; for though neither society nor the state recognised his services, his own conscience did. The lecturer then mentioned that the Westminster Hospital was the first to throw itself upon public charity for support, and for more than a century and a quarter had been supported solely by voluntary contributions, and he showed how largely its example had been followed throughout the land. He forcibly remarked, that the governors had, up to last year disregarded the duty of educating students as well as healing the sick, but that now they were intent on atoning for their neglect; for that the class-rooms, and all other appurtenances to a medical school, had been made perfectly efficient for instruction, and he doubted not "that the class-rooms of the school and the wards of this fine hospital will be animated with a class of students who shall go forth from this place to be a blessing to the people among whom their lot may be cast."

ST. GEORGE'S HOSPITAL.

The session was opened by the distribution of prizes obtained during the past session. Sir B. Brodie presided, being supported by the lecturers. The board-room of the hospital was densely crowded. We understand that the "entries" have been unusually numerous. Mr. Henry Charles Johnson opened the proceedings with a short and impressive address. He dwelt more particularly on the rise and progress of the hospital and the school, and the great names which were attached to the institution. The place which had been adorned by the labours and the genius of the Hunters, of Cheselden, Heberden, Baillie, Hope, Young, and Wollaston, offered at the present time not only the examples thus set before the student, but every requisite for his obtaining a sound and practical education.—After showing briefly the rise of the school, and having paid an elegant compliment to the president, the prizemen were announced, and severally received the reward of their industry. One name amongst these is deserving of special attention, not only for the number of prizes its owner had obtained in the school, but for the distinguished position he occupied in the examination at the university of London. The gentleman's name is T. K. Hornidge. Sir B. Brodie also delivered an admirable address.

KING'S COLLEGE.

Abstract of the Introductory Lecture of Professor E. Forbes.

The studies which engage the attention and occupy the time of the medical student may be classified under three heads: human and general anatomy, physiology, pathology, and materia medica, laying a sound foundation of accurate and indispensable knowledge; the theory of medicine and surgery, acquired in the lecture room, and an initiation into practice by the bedside of the patient; the theory and practice of midwifery completing his purely professional acquirements. But to form an accomplished physician or surgeon, and to complete a sound medical education, there is another class of studies, represented by chemistry, botany, zoology, and comparative anatomy. Each of these sections of science has, it is true, a direct and practical bearing upon medicine, but that is of little value, compared with their educational importance, as means of training the observing faculties of the student. The advantage in "training the faculties, &c.," is the ground of apology for introducing mathematics, algebra, &c., into the preliminary studies of medical aspirants. Comparative anatomy, botany, and chemistry, call for no apology on such a ground. On correct observation, a careful introduction to successful pursuit of medical science must be founded. Those who look only to results and final purposes are apt to underrate the value of a minute training of the observing powers. Just as in ordinary education, classical and mathematical studies serve to exercise, strengthen, and develope the mind, so as to enable it, in whatever direction its thoughts may eventually be turned, to meet the pursuits of life, and grapple with its difficulties with vigour and understanding; so do the sciences of chemistry and natural history prepare the student of medicine, whatever may be the line of practice to which he may eventually direct his attention, to observe the phenomena of disease with minuteness and accuracy, to form rapid and just conclusions respecting their origin and progress. All the chemistry in the world, and all the natural history, will not make a man a good physician, regarded merely as so much knowledge in those sciences; but a practical acquaintance with the methods of observation in chemistry, dealing as they do so much with the sequence of phenomena, and in natural history, regarding, as they do, the exact definition of the object, cannot fail to benefit the student of medicine, and to give him power peculiarly applicable to the successful pursuit of his profession.

That men are naturally, and uninstructed, bad observers, we see every day in the attempts of travellers to describe animated objects. Without such a training in observation as a course of medical education gives, their descriptions are false and useless, unless the describers have been previously versed in natural history. Even among honest and earnest votaries of science, who have either entered upon its pursuit late in life, and have attempted original inquiry without a sufficient knowledge of its rudiments, or who have engaged in complicated researches, without a previous training in the methods of observation, we are too often forced to listen to absurdities, visionary speculations based upon ill-observed facts, or fantastic misapprehensions of the facts themselves. This is especially the case with the crowd of uninstructed microscopic observers, who daily enter inconsiderately on abstruse inquiries, which demand, ere they can be successfully investigated, the sound foundation of a physiological education, of which correct observation is an essential element. The best instrument is only a source of deception unless there be a trained eye, and a sound head at the end of it. When every day we are reminded by what we hear and read, that without training few if any men are accurate observers—a fact especially conspicuous in a country like ours, where the training of the observing powers is too often systematically neglected in the education of youth—how important does it become that in the preparation for the practice of the medical profession, every means should be taken to form the student into a good observer! In the practice of medicine, defective powers of observation, or incapability, through defective training, of noting accurately the phenomena of disease, must inevitably endanger alike the life of the patient, and the reputation of the practitioner. On one mistake in the observation of a fact, a long train of false reasoning may be founded, pernicious enough in any pursuit, but destructive in medicine. Never be led astray, then, by the fallacious notion that the study of the sciences collateral with medicine, and adopted, through the experience of the legislators of the profession, as essential portions of medical study, are the less important because they do not deal immediately with the practice of medicine. The student who, through a just attention to them, becomes well versed, and adroit in scientific observation, will in the end be the most successful in the pursuit of professional fame.

The strength which medicine may gain by an union with the collateral sciences, and by the following up of the methods of investigation most appropriate to it and them, is finely exemplified in the life and works of Haller. In that illustrious man you have the type of the accomplished physician, a model to set before yourselves for imitation. The vast combination of sound knowledge which distinguished Haller, and the greatness to which he attained, although likely to be acquired by few hereafter, should not be regarded as exceptional and inimitable, but rather be studied with a view to the discovery of the manner in which that knowledge, and wisdom, and greatness, was attained. Such men appear among us to show us how much it is possible to do; not to deter us from attempting to do again that which they did. And how did this mighty physician and philosopher become what he was? By careful and incessant observation, by sound and common-sense reasoning, by bold thinking, by incessant industry, without ever neglecting the common duties of life. By such a course did Haller attain his pre-eminence. Who will dare to say that the path is not open to every one? Few possess his genius, but all are capable of treading in his steps; and if they cannot become as great, need only to work as he did, use good sense, diligence in study, determination to let no opportunity of learning pass, resolve to leave none of the duties of a good citizen undone, or to neglect any of the means —far more abundant now than in the days of Haller— of acquiring a refined taste, and an ample acquaintance with literature as well as with science, and they will be sure of professional success.

There is a vulgar prejudice which still holds with weak or uneducated persons, but which will disappear before the progress of enlightened education, that to be eminent or able in the medical or any other profession, the less you have to do with other sciences the better. A more absurd or more pernicious fallacy could not have taken hold of the popular mind. What is the real state of the case? Read the lives of the great physicians and surgeons of the past; inquire into the acquirements of those who now hold the foremost ranks, and what do we find? Instead of answering to the vulgar notion, they have been, and are, exactly the reverse. Past and present they have been scholars and gentlemen, men of science or men of taste, each and all possessing knowledge and acquirements in no small degree out of the course of their profession. This is true of men in active practice. The whole history of the profession shows that even a deep and original acquaintance with various branches of science and literature is quite compatible with the successful and diligent pursuit of the practice of the medical profession. The more enlightened a man is, the better is that man able to follow his occupation with success and originality. In my own science I could call to witness the vast services which have been rendered to it by members of the medical profession who are engaged in arduous practice, and were never known to neglect a patient.

Always, in all you do, bear in mind the inherent nobleness of your profession. It is too true, I know, that in our country the higher social honours never falls to its share; that nobility and high place in the state are denied to the man whose life has been spent in alleviating the sufferings of his fellow-creatures, or who has devoted a fine and cultivated intellect to studies by the bedside of the sick, it may be, in the hope of discovering means whereby to soothe bodily anguish, and benefit the health of generations to come. He must look for his reward to his own commending conscience, and to the generous approbation of his fellow-labourers in science. Yet, after all, that reward is nobler than any worldly distinctions or high-sounding titles. The names of the benefactors of mankind, whether through philanthropic exertions or their labours in science, literature, or art, shine as bright stars in the firmament of fame when the time-serving notabilities of even yesterday have been forgotten.

THE LONDON HOSPITAL MEDICAL SCHOOL

The introductory address to the students was delivered by Mr. **Nathaniel Ward**, to a crowded audience. He commenced by pointing out the paramount importance, both to society at large and to the individual who was about to enter it as a self-acting member, of the proper adjustment and exercise of the intellect; and remarked, that were the steps in this important inquiry conducted with the greater discrimination, numbers who now wandered heedlessly about, haunted as it were by the spirit of their prostituted powers, would have found a congenial soil for the cultivation of their abilities, and taken their active part in the onward movement of civilization, instead of acting as a dead weight to its progress. He then took a general view of the nature of the preliminary education requisite for the young aspirant after independence in the duties he was about to undertake, in order to qualify himself for the medical profession, which undertaking was not a mere wordly speculation in which the maximum of proceeds could be obtained from the minimum of labour, but one of earnest interest, not only capable of leading to a respectable position in life, but of exalting the mind, and enlarging the boundaries of intellectual enjoyment; and requiring undeviating devotion to duty, unceasing industry.

He then alluded to the spirit in which the study of medicine should be approached, and referred their attention particularly to the spirit of humility, which had always been among the prominent characteristics of the minds of the most cautious and conclusive inquirers; referring them particularly to Newton, Linnæus, Harvey, Hunter, Haller, and Dalton.

Having next contrasted the period of their primary education with the space of time they had *now* to devote to the study of medicine,—the latter being represented by the short period *of three or four years only*,—he went through, in general terms, the pursuits comprehended in the curriculum, and showed that from the brief period at their disposal nothing satisfactory could be accomplished without the use of great industry and the steady application of their best energies.

He then proceeded to a consideration of the obstacles that interfered with the progress of the profession towards full public appreciation; and although he fully admitted that charlatanry stood much in the way of its advance, he believed that some of its severest and least endurable homethrusts had been inflicted by those who had failed, during the period of their pupilage, to avail themselves of the extended opportunities at their command, and had sunk either into degrading obscurity, or found their way to notoriety and pecuniary emolument by "tactics and short cuts known only to adepts," making, with every proselyte to their creed, a fresh sacrifice of honest, conscientious feeling. A premium had thus been held out for the daring pretensions of those who palmed off their ignorance as wisdom, brought to bear, as their implements of persuasion, arguments, at the best only equal to the special pleadings of sophistry, and who, by pandering to the fickleness of the multitude, succeeded in stealthily or openly abstracting large portions of our professional birthright, and "in living like princes on the exhaustless revenue of human absurdity."

Notwithstanding every impediment that had been thrown in its way, the medical profession was still an eminently useful one, and stepped onward, and made daily progress in public opinion. This had arisen from its general and special aptitude for furthering the vital interests of the public, and administering to the bodily and mental frailties of the individual—in the one character, by its strenuous advocacy of a correct system of sanitary government; in the other, by the duties which its members were called on to perform within the limits of domestic life. He held up the champions of sanitary reform as brilliant patterns of extended Christian charity, and of the devotion of philosophy to a definite object, fraught with health, with peace and plenty, to many whose lives were degraded and embittered, and whose death was prematurely accelerated. He alluded to no one among them with greater pleasure, with purer satisfaction, than to **George Alfred Walker**, whose name and whose deeds would, ere long, occupy more than one bright page in the annals of fame.

To become a well-educated medical man, the skilful professional adviser, the friend of the intelligent, the instructor of the ignorant, the welcome visitor into every circle, he urged them, not only to pay devoted attention to those studies which had a direct bearing on their abstract medical life, but also to follow up those subjects which at first sight appeared to have no particular practical or utilitarian tendency. He conceded, that by a contrary course they might make *useful* practitioners, but they would be in a great measure deficient in those resources which were the passport to good society, and for which the mind panted in the intensity of labour, to the fatigue and exhaustion consequent on which bodily repose was, at times, perfectly inadequate as an antidote; for it was rather in a diversity of occupation, than in entire cessation from toil that the soul discovered its *real* refreshment, and rose to its defined task of duty with renewed zeal and vigour.

In conclusion, after congratulating them in having selected the metropolis for the scene of their exertions, he urged them, in every station of life, professional and social; in the school, where they would be taught the principles of their profession; and in the hospital, where they would *learn* its practice; to do everything that could become a man, and avoid everything that could degrade him, ever bearing in mind the motto of the noble establishment where they were then assembled—

"Homo sum, humani nihil à me alienum puto."

HUNTERIAN SCHOOL OF MEDICINE.

Dr. Aldis commenced by stating that numerous medical practitioners naturally thought of former days at the opening of each winter session. Some might enjoy a short reverie, and imagine themselves to be students again. Brief remarks were then made upon the different periods of medicine from the time of the Egyptian priests to that of Harvey. In the last introductory address which he delivered, two years ago, allusion was made to the establishment of evening classes for young men desirous of improving their leisure hours, at the least possible expense. He alluded to this circumstance with a view to stimulate students to obtain as much information as possible, that they might not be outstripped by others in an inferior station of life. The priest alone first practised medicine, but a very different state of things existed in the present day. As far as the actual practice of medicine was concerned, this separation became necessary, but a greater sympathy might exist between the two co-operating together for the benefit of mankind. Indeed, he thought it to be the duty of the medical man, when attending the sick, to suggest the attendance of the minister of religion wherever he observed it to be neglected, and not to let patients die like heathens. It was incumbent upon parents to give their sons a good preliminary education if they intended them for the medical profession, although many had gained celebrity by well-directed attention merely to medical subjects. To heal the sick was a divine command in holy writ, which recommends honour and love as due to the medical man. The most eloquent orator also speaks of the divine origin of medicine. The lives of your fellow-creatures will depend upon your skill, and the greatest misery is entailed upon society by ignorance. This should be considered by some of the nobility of this land, who patronize the medical heresies of the day, as homœopathy, hydropathy, and mesmerism. What! has the name of hospital become desecrated? Is that establishment, which has in some countries been named the house of God, to become a receptacle for homœopathic trickery? Are the old hospitals and dispensaries to languish for want of funds, to be wasted for such a purpose? Be careful to avoid "secretum iter et fallentis semita vitæ." The different subjects of medical study required by the curricula of the College of Surgeons and Apothecaries' Company were then adverted to *seriatim*, with appropriate remarks and advice to the first, second, and third year students. The danger of procrastination was then alluded to, many students having lost appointments by neglecting only one course of lectures: they should present themselves for examination after due preparation, and not wait, as some had done, for collegiate reforms, but—

> "Begin, be bold, and venture to be wise."

SHEFFIELD MEDICAL INSTITUTION.

The introductory address was delivered on Tuesday evening, Oct. 1, by Dr. John Charles Hall, who commenced by congratulating his audience on the flourishing condition of this school, and then at great length proceeded to vindicate the position of medicine as one of the sciences. Medicine was both a science and an art; to quote the words of his first teacher, Sir B. Brodie,—words he hoped they would never forget,—"*Medicine was a noble profession, but a low trade.*" After showing that medicine was not a chaotic mass, without form, and void, but a profession founded on correct general principles, and guided by scientific rules of action, he rapidly sketched the more recent and important of the discoveries effected by means of the microscope, and the results of chemical experiment, manifesting that science was the most simple means for obtaining the greatest effect with the smallest expenditure of power. Dr. Hall then proceeded to address the students as future members of the profession. He warned them that those who were idle and inattentive, coarse and careless in their general demeanour, wasting the precious hours at their command in discreditable pursuits, would one day find that all these things had been noted to their ultimate disadvantage, and that professional success depended not on accidental circumstances, but on the character which they had made for themselves as students. After directing their attention to the importance of a thorough knowledge of anatomy and chemistry, the difficulty of determining what are remedies and what are not, was pointed out, Dr. Hall remarking, that the fact of a patient having got well under a particular mode of treatment goes but a little way towards establishing its value in a given disease, nor is anything sufficient for this purpose short of the same result being obtained in many similar cases. It was a common thing to admit the value of remedies without due examination; and unless those whose duty it was to do so guarded against this error, they had little right to blame the insane credulity of others. More especially were dupes found in the higher ranks of life, whom a corresponding error of judgment induced to believe in the wonder-working powers of metallic tractors, the electuary of the "three devils," "the plaster of the hand of God," the touch of the King's hand, the discarded quackeries of past ages; or, to come to our own days, "phreno-magnetism," "Godfrey's cordial," "Parr's life pills," "Holloway's ointment," "Coffin's herbs," or that monster—that double-distilled essence of humbug and quackery, *homœopathy!* In after life, when they had joined the ranks of the profession, Dr. Hall earnestly enjoined them to avoid those unworthy and degrading jealousies, which did far more harm than the attacks of open enemies. He said that no man ever yet attained success, unless he acted with fairness to his brethren.

If they wished to see the moral influence of medicine depicted in its liveliest hues, he would, with Dr. C. J. Williams, ask them to contemplate a domestic scene—a family whose hearts are wrung with a dreadful anxiety for one vibrating between life and death. What a ministering angel is the physician then! How they hang upon his words, how they wing themselves to the souls of the hearers for sorrow or for joy! Yet not a week passed in Sheffield without such a scene occurring; they were passing daily, in the palace of the noble, in the mansion of the rich manufacturer, in the cottage of the "grinder;" and they opened the hearts of all, for the moral influence of medicine is bound up with the issues of life and of death.

Dr. Hall said, in conclusion, that the profession of medicine was the noblest that could engage the mind of man, when faithfully studied and conscientiously practised. It had been too much the fashion to speak evil things concerning it—to call it "a poor and degraded profession." Poor it may be, slighted it had been, "but degraded" it may not, cannot become, so long as its principles are founded on science, so long as by restoring sight to the blind, feeling and motion to the paralyzed, and reason to the miserable victim of insanity, its end is proved to be the good of mankind.

CHATHAM-STREET SCHOOL OF MEDICINE, MANCHESTER.

The Inaugural Address was delivered by Mr. Dorrington on October 1st, at four p.m., in the council chamber of the Manchester Town Hall. Allusion was made to the great responsibility assumed by lecturers on medicine—a responsibility particularly onerous at present, from the circumstance that a tendency had latterly been exhibited, by young members of the profession, to desert legitimate medicine for the fashionable quackeries of the day. This fact was worth tracing up to its causes. Amongst others were named that restless anxiety exhibited by all classes of society to attain wealth, influence and power, without fulfilling the divine decree of prolonged exertion and patient endurance. This led to an inordinate anxiety to secure success by professional novelties; and though the well educated and industrious were able to keep their ground in this competition, nothing was left to the indolent and half instructed but to adopt pseudo-medical systems. The transitional state of the medical art in regard to treatment, served as a specious excuse for apostasy to those who really were impelled by more unworthy motives. Another cause was to be found in men commencing practice before they had obtained sufficient experience in the treatment of disease; finding its application more difficult and uncertain than they had expected, they became dissatisfied with our art, instead of conscious of their own imperfections. The lecturer then alluded to the two recent articles in the *British and Foreign Medical Review*, which have been twice alluded to in The Lancet. He spoke in the strongest terms of disapprobation of the spirit therein exhibited, and said that such writings, and the circumstance of orthodox practitioners in the metropolis meeting in consultation homœopathists, &c., could not fail to shake the confidence of students in the principles and practice of legitimate medicine, diminish their salutary repugnance to empirics and empiricism, lessen their *esprit de corps*, and break down in their minds the line of demarcation between truth and falsehood, honesty and knavery. Another cause was to be found in students entering the profession with a false and exaggerated estimate of the powers of medicine. The theory of specifics was too rife, and the fact that disease has its natural history, which must be studied, in order that it may be successfully treated, was not sufficiently recognised. Another cause was to be found in the unphilosophical constitution of some minds, which, incapable of mental toil and laborious observation, flew for repose to some system applicable to all diseases, without much labour on the part of its professors, and fell inevitably into some routine treatment from their very intellectual feebleness. Students were advised to discover the lessons taught by the various species of empiricism, for it was a fact, that at the basis of almost every system of medical heresy was to be detected some neglected medical truth. The remaining portion of the lecture pointed out to students the best modes of obtaining sound medical knowledge. The necessity of accurate observation, of recording facts observed, and of embracing every opportunity of gaining practical knowledge, even though this might interfere with some other studies, were dwelt upon. The importance of gaining a comprehensive and complete knowledge of medicine was insisted upon; and, as tending to prevent this, the present system of giving prizes for excellence in one particular branch of study was condemned; the student was warned against mental exclusiveness and one-sidedness; and the lecture terminated by a few remarks upon the importance of a correct regard to medical ethics and etiquette, as essential to the formation of the perfect medical character.

MANCHESTER ROYAL SCHOOL OF MEDICINE AND SURGERY,

PINE-STREET.

The introductory lecture was delivered on October 1st, by Mr. Just, who remarked, that whoever aimed at distinctions and honours in his future career and profession, must lay the foundations in a sound and liberal course of school education. Few of the really great men in the profession but possessed a complement of classical and mathematical knowledge. The medical profession was peculiarly a learned one, appertaining especially to men of extensive knowledge and gentlemanly habits and feelings; and all below this standard, being undeserving of their position, soon sank down to their level in public estimation. A thorough classical course of education he regarded as the corner-stone of the edifice of the student's future fame and fortunes.—Such a course disciplines the mind as no other part of a systematic education has been found to do, besides imperceptibly infusing into it a refined taste, and an accuracy and elegance of diction. The lecturers and teachers of the Manchester School could bear testimony to this, for the medals awarded there had mostly been won by gentlemen of such preliminary attainments.—After a general review of the different studies which would engage the attention of the student of medicine during his sessional attendances, Mr. Just remarked—"there was nothing in physical science, nothing in natural history, with which the student in medicine should not be conversant. Hence the proud name of physician—a title significant of an acquaintance with all Nature's physical laws. It was a mistaken, though a prevalent notion, that to attempt too many subjects would paralyze the mind; whereas the mind can retain any number of impressions, provided they be made distinctly and separately. The secret of its highest cultivation is in doing only one thing at once, and that thoroughly and well, and in never allowing the mind to remain idle, but making one faculty relieve another, as each in turn becomes jaded or overwrought. And there is a connexion in all knowledge, as by adding link to link you form a continuous chain. Success in study depends upon the systematic exertion of the mind; and by due and adequate regard to each subject as it is presented, adequate progress will be made, accompanied by a relief in the change, and a positive pleasure in the acquisition." An eulogium followed on that profession which included amongst its sons a Howard—that personification of philanthropy and benevolence. The address concluded with practical advice to students of the School, to which, it was stated, the public had shown substantial tokens of respect and encouragement. One gentleman, who wished his name to remain unknown, had bequeathed £500 to the school; other donations had been made, and had enabled the proprietors of the school to found a scholarship of £20 per annum, tenable for two years.

QUEEN'S COLLEGE, BIRMINGHAM.

The Michaelmas term of this institution was opened with the usual formalities on Tuesday, October 1st, by the Right Hon. Lord Lyttelton, the Principal, and the prizes of the previous session were distributed.

Professor Sands Cox, F.R.S., commenced the course of Surgery at Queen's College by an introductory lecture, delivered in the theatre of the institution on Tuesday, October 8th. The professor took a comprehensive view of the history of surgery from the earliest times to the present day; he stated the great principles of the science, and as preparing the students for the ensuing course, defined the leading terms which are employed. He concluded with an eloquent encouragement to an ardent and persevering pursuit of scientific tasks.

There were present, beside a large body of students, the warden and several members of the council; and, at the close of the lecture, the Rev. Prebendary Gray, warden of the College, said, that considering how interesting was the occasion on which were assembled, he could not but request them to join with him in offering their congratulations to the professor. That gentleman had completed a quarter of a century of medical instruction, and was now entering upon his twenty-sixth year of labour. It would be a matter of congratulation to any professor to have continued his scientific teaching through so long a period. But Mr. Sands Cox had done more than this; he had founded and reared up the College in which they were assembled; he beheld before him and around him the fruit of his toil in an institution which bids fair to take a high place in the science and literature of this country, and even of Europe. He would descend to posterity in the class described by that great poet, to whom reference had been made in the lecture—"Quiqui sui memores olios fecere merendo." Besides this, they all knew the amiability of his private deportment; and this would supply them with another reason to join him in the expression of congratulation with which he would conclude—"that the warden, professors, tutors, and students, and other friends of the Queen's College, in Birmingham, beg leave warmly to congratulate Professor Sands Cox, F.R.S., on the commencement of his twenty-sixth year of medical instruction, and on the bright prospect and flourishing condition of the College and Hospital which he has had the honour to found; and assuring him, at the same time, that they are deeply sensible of his philanthropic labours in the cause of education and charity, and earnestly desirous of co-operating with him for the full realization of his enlarged and comprehensive views."

The proposal was received with the most enthusiastic applause.

LIVERPOOL SCHOOL OF MEDICINE.

The introductory lecture was delivered by Dr. Nevins, who directed himself to examine into the charge of immorality and infidelity occasionally brought against the medical profession. He scrutinized the circumstances of a medical education, to ascertain whether it had any natural tendency to produce such effects. He adverted to its necessary familiarity with the diseases resulting from sensual indulgence, as begetting an indifference to the latter, causing it to be often regarded as a mere subject of professional interest, and removing the notion of such indulgence being sinful, or any thing worse than indiscretion; and he spoke in strong terms of condemnation of relating indecent stories, by which students are led to suppose that such conduct was rather countenanced than discouraged. He drew attention to the importance of the body as well as the soul, in the eyes of the Creator, and urged, as a consequence, the necessity both of strict purity of life, and of decency of behaviour to the dead body in the dissecting-room. If the study of nature and pathology were productive, in some unstable minds, of doubts of religious truth, it was not so much that the existence and wisdom of the Creator, as evinced in his works, is liable to controversy, as his unity and supremacy; and from this cause, that in cases of disease the students seems to trace the agency of a malignant Being counteracting and ultimately destroying the work of the Creator. So also from comparative anatomy he learns that some classes of animals, and those apparently the most powerful and highly organized, and made expressly to prey upon others, upon whom, however, their Artificer has evidently bestowed great pains. He therefore is tempted to ask, whether the Creator is supreme? or whether he has not an antagonist at least as intelligent, and still more powerful? And if the same Creator made both the lion and the lamb, he begins to doubt his beneficence, in making the one to destroy the other. The lecturer showed how the perplexity arising from these doubts had led the Egyptians, Greeks, and Hindoos, all acute observers of nature, into a hopeless polytheism, from which some of the Greeks escaped only by boldly denying the evidence of the senses, and trusting to their assurance from reason of the unity of the Deity.

He then alluded to the slight difference between man and the lower animals, as shown by comparative anatomy, which sometimes leads to doubts as to his destiny being really higher than that of the brutes, and so to a practical recklessness, from the disbelief of man's being more responsible for his actions than the animal creation.

The answer to all these doubts, he said, lay alone in the revelation given in the Scriptures, and he remarked that if students of nature trust simply to what they can learn from it, that is, if they rely upon natural theology, and neglect revelation, they will be no more able to solve these difficulties than the nations alluded to, who had a very competent knowledge of natural theology, as proved by some of Socrates' discources. He showed how all the above perplexities are removed by what has been revealed of the nature of the Creator, of the origin of suffering and death, and of the future destiny of man, as distinguished from the beasts; and he concluded, by warning them that they must expect to encounter temptations, both moral and intellectual, and must look upon them as part of that discipline which was to prepare them for a higher state hereafter.

HULL AND EAST RIDING SCHOOL OF MEDICINE AND ANATOMY.

The twentieth session of this school was opened on the 1st of October, by introductory lectures to several of the courses. Mr. **Wallis**, in delivering that to the Anatomical class, alluded to the changes which the prospectus of the school presented, when compared with that of preceding years—changes dependent on the removal to other localities of some of the lecturers, and to the vacancy in the surgical chair by the death of Mr. Robert Craven, who had so effectively filled it since the formation of the school, but now to be occupied by a gentleman, who for several years had delivered the botanical lectures. He then referred to the fact that the gentlemen who had joined the school this session had all prosecuted their studies as pupils in this institution.

After urging on the class the necessity of an assiduous cultivation of anatomical science, and of obtaining clear and distinct views of the great principles of medical science, in all its departments, he entered upon the consideration of the many elementary substances employed in the formation of animal structures, and the distinctive physical and chemical properties of each; and he concluded by referring to the secondary organic compounds of the body.

Mr. J H. **Gibson** delivered the introductory lecture on Surgery, and Dr. **Sandwith** that on the Principles and Practice of Medicine. The first lecture on the Practice of Midwifery and the Diseases of Children, was given by Mr. **Hardey**, who traced the rise and progress of obstetric science from the earliest period; and he was succeeded by Mr. **Beckett**, who delivered the introductory lecture on Chemistry, and traced the progress of chemical science from the earliest times; noticed the speculations of the alchemists and discoverers of the "elixir vitæ," one of whom was Paracelsus, who, however, belied his own doctrines by dying at the early age of forty-eight. The period when, as Liebig says, "chemistry, like a grain of seed from a ripe fruit separated from the other physical sciences," was then noticed; and lastly, the vast progress of chemical science, from the labours of Liebig and his coadjutors, was pointed out; indeed, of Liebig it may be truly said, "Nihil tetigit, quod non ornavit." The claims of chemistry on the student as a mathematical discipline, and as related closely to physiology, pathology, and therapeutics, were then pointed out and enforced.

Dr. **Humphry Sandwith**, in his introductory lecture, insisted on the substantial uniformity of the objects of medical science from age to age. Illustrations of this truth are furnished by a comparison of modern with ancient medical literature. The principal deviations occur in the phenomena of extensive epidemics, such as Asiatic cholera, and those of the middle ages described by Hecker. He then dwelt on the necessity of cultivating the habit of observation, and on the importance of directing it by lectures to its true ends. Its paramount value was illustrated by the fact, that the study of the living forms of disease in hospitals perfects the physician; that to the habit of exact observation the medical school of Paris owes its celebrity; and that, while the theoretic Cullen and Brown had lost consideration, the great English observers, Sydenham, Meade, and others, still maintain a high rank among the aristocracy of medicine. A handful of medical observers, schooled in the principles of M. Louis, would in a short time achieve more than had been accomplished during the last 2000 years. With lectures should be combined, owing to the onerous routine of hospital duties, only a limited course of reading; a larger acquaintance with medical literature must be reserved for after life. For, as Dr. Johnson has observed, "if no use be made of the labours of past ages, the world must always remain in the infancy of knowledge." Enlightened observation implies also a habit of correct reasoning. We can only be saved from a careless mode of investigating disease by cultivating a logical accuracy of thought. Diagnosis is the right hand of medicine. The ancients are severally esteemed in proportion as they aid us in the discrimination of disease; so likewise are the moderns, and none more than our contemporaries, Louis, Latham, Watson, Stokes, Golding Bird, and others. What the previous discover is to the student in chemistry, the lecturer on pathology is to the medical pupil. He lays before him the results, not of the observation of himself alone, or of his contemporaries, but also of by-gone generations. Thus assisted, the student must return from the lecture-room to the bedside and the dead-house. He must work out the problem for himself, but with the advantage of being furnished with the readiest method for its solution. While the hospital presents the student with an indiscriminate collection of diseases, the lecturer groups them by the aids of analogy and a reference to their seats and causes, and thus facilitates comparison and generalization. Disease is to be sedulously studied by its results in the dead body. Such knowledge as the physiologist often labours in vain to acquire by the difficult and often fallacious method of experiment is not unfrequently displayed by the analyzing power of disease. The student thus traces by the scalpel each function, as it successively disappears, in the destruction or suspended action of its corresponding organ. Etiology is a subject full of interest and importance, tracing disease to faults in the organic structure itself, either hereditary or acquired, or to the influence of external agents. A wide field of inquiry is thus opened up; and not the least interesting of the sources of disease is the hereditary transmission of the germs of decay. The student of medicine must call in to his aid other sciences auxiliary to that of medicine, especially chemistry, which in its unfolding applications to the phenomena of health and disease has in our days acquired an authority and importance heretofore unknown. Then, again, the narrow limits of unaided sense in post-mortem researches, have been marvellously expanded by the microscope; and the entire field of morbid anatomy has to be subjected to a careful revision. Great value attaches to the numerical method of M. Louis, although it is liable to great abuse, investing as it sometimes does the greatest fallacies with the semblance of truth. Individual sagacity and observation can never be superseded.

The lecturer expatiated at some length on the philanthropic aspects of the science of medicine, and its vast importance to society, as furnishing an additional stimulus to generous minds. He showed the inseparable connexion of the purest virtue with the highest wisdom, and recommended a careful perusal of Dr. Percival's Treatise on Medical Ethics, with a striking quotation from which he closed his lecture.

LEEDS SCHOOL OF MEDICINE.

The twentieth session has opened with renewed vigour, and apparently with brightening prospects. The introductory address was delivered by Dr. Heaton, the President for the ensuing academical year. There was a considerable attendance of the profession, including most of the members of council, and other practitioners of Leeds and the neighbourhood, and a goodly number of students, amongst whom were not less than a score of attentive freshmen, promising already a considerable increase to the number of entries this year, as compared with those of the last two or three years. The lecture was chiefly addressed to commencing students. Dr. Heaton remarked, that those now entering upon a course of study intended directly to prepare them for the serious engagements of their future life, must feel conscious of some sentiments in common; the same sense of the importance of their present position; the same hopeful anticipations; the same good resolves; but that without likewise some solid moral principle, there was danger that their enthusiasm would soon languish, their occupations prove irksome, and temptations draw them aside from the path of duty. It is important, therefore, that the student should consider the dignity of the profession with which he seeks to ally himself, the self-renunciation which it demands, and the grave responsibilities which appertain to the practice of the healing art,—next, in these respects, to the sacred calling of the throne.

The advantages afforded by provincial schools were briefly noticed, and the efficiency and the good esteem of the Leeds school were suitably vindicated. The council had to regret the loss, by death, of the zealous services of the late Mr. Staniland, but the assistance of Mr. W. Price, son of their colleague, Mr. Price, has been kindly offered and accepted, to supply any deficiency, and the efficient working of the School was never better provided for than at present; though without the student's diligent co-operation, all other means must be of small avail. The theoretical learning which can be acquired in the class-room must not alone content the student; he must diligently acquaint himself with the anatomical structure and relations, and with the visible and tangible peculiarities of the various structures of the human body, in the dissecting room; and he must long habituate his senses and powers of observation in the notice and discrimination of the symptoms of disease in the hospital and at the bedside of the patient. The distinctions between the certainty and precision of the abstract sciences, (and even of physical science,) as compared with the more uncertain and variable results obtained in the sciences of living beings, were pointed out and explained, and the importance of observation and the application of the inductive method in the latter was enforced. The student was cautioned not to allow his endeavours to secure the theoretical learning necessary for successful competition for the prizes offered by the council, to induce him to neglect the cultivation of the practical applications of this knowledge, for the loss of which no honorary distinctions will serve to compensate.

Instances were adduced, showing the encouraging progress which is actually taking place in the acquisition of absolute facts in medicine and the allied sciences. The application of the *numerical method* was noticed as a means to this end; its capabilities and limitations. The importance of these collateral studies was enforced, and their true value explained. The student was exhorted to neglect no branch of learning which could promote the acquisition of not merely a respectable, but a distinguished and honourable position in society, and amongst his professional brethren; not to be contented with mediocrity; to set before him the bright examples of the many worthies who have rendered so dignified and honourable the profession of the healing art. Linacre, Caius, Harvey, Radcliffe, Meade, Cheselden, Sir Hans Sloane, Jenner, Hunter, Sir H. Davy, and Sir Astley Cooper, were instanced, and their special claims upon our gratitude and esteem briefly noticed. Lastly, Dr. Heaton warned his hearers that, when engaged in practice, they must expect to encounter much unfair competition from the quack and charlatan, who seek to attain eminence by some shorter cut than by the dull highway of industry and merit. Let them not, however, envy such bad eminence. The acquisition of gain, and even of popularity, should not be the chief objects for which they strive, and will be of little worth, should they meanwhile forfeit their own self-respect, and the good esteem of the worthy. And should they be able to say, with Sir Thomas Brown, that, notwithstanding the general scandal of the profession, they dare, without usurpation, assume the honourable style of Christian, they may be possessed of consolations and encouragements under every disappointment; and even should the motto of Tulpias, "*aliis inserviendo consumor*," express too literally and exactly their own experience, they can look beyond the present moment for the full recompence of their present exertions, and be prepared to say—

> "'Tis not in mortals to *command* success,
> But we'll do more, Sempronius, we'll *deserve* it."

MEDICAL ORGANIZATION.

We were struck, on reading the recent address of the King of Prussia to the Prussian Chambers, with the circumstance, that the policy and organization of the medical profession was referred to as one of the great questions of national welfare to be discussed by the two Chambers of Representatives. The King's words were—"The draught of a law "regulating the practice of medicine will shortly "be laid before you."

Without question, this is taking a right view of the national importance of medical affairs. But when shall we hear any reference to such vulgar matters as Physic and Surgery from the lips of our Sovereign, on meeting her two houses of parliament? When will the Lords and Commons of England be recommended to take the state of medical legislation in this country into their serious deliberation? We would commend these questions, and the considerations to which they give rise, to the reflections of those in authority. In Prussia, at a time of unparalleled warlike agitation, questions of medical government are still thought worthy of even royal notice. And it is not that the Prussian medical code is affected by any of the monstrous wrongs and inconsistencies which are rife in our own professional regulations.

We do not hesitate to declare that the present laws relating to medicine in this country are a national disgrace. England has now been blessed with thirty-five years of uninterrupted peace, yet the medical profession, essentially a profession which might be expected to flourish in such an epoch, is at the present time in a state of injurious anarchy. Practically speaking, all the laws relating to medicine are suspended. Thousands of mercenary and uneducated pretenders live by preying upon the health of the community. Murder by the quack, is the only kind of murder tolerated and excused by the forms and principles of our courts of law, as now reduced to practice. Great Britain in 1850, is the only civilized country under the sun in which the Government at once takes a revenue from quack medicines, and permits the most ignorant knave to prostitute medicine for purposes of gain, and with murderous results, without let or hindrance. Such a state of things would be a disgrace to a semi-barbarous country. The millions ruled by the knout are protected from such a state of things. The rights of life and health are the only rights not protected in this country. Let any pretender attempt to enter a pulpit, and he would be removed by the police without much ceremony. Let any man appear in our courts of law as a solicitor or barrister without a just qualification, and he goes straight to prison as a reward for the intrusion. But any fool or vagabond may take the place of the regular practitioner at the bedside of the dying, and administer the most hazardous medicines in perfect ignorance, and with perfect impunity. The false maxim of our laws, as at present interpreted, is, that he is no more criminal than a Chambers or a Brodie when death ensues. Conscience and Property are abundantly protected; Life, human life, is the only thing not worth caring for, in its grosser violations, by the State!

Against cholera, which has visited us twice in this century, the whole kingdom was in agitation; but against quackery, a greater destroyer, and always with us, government have palsied limbs and tongues, and the laws are really dead. Immense preparations are made, and very properly, to prevent disease, but none to defend its victims against the ignorant and empiric. Sewers may not emit their odours, nor chimneys their smoke, on account of the public health; but Coffinites, Morrisonians, and all the genus of quacks, may pursue their pestilent steps unmolested and unpunished.

How long are these things to continue? Surely some virtuous Minister will arise, who will not think the concerns of the health of our population, and the defence of the sick, unworthy of his care. Something more than a civil reception of deputations, and smooth answers to addresses, are necessary, before this great question can be settled. Its adjustment would make the fame of any Minister, and entitle him to the gratitude of this and succeeding generations. It cannot be said that the profession of medicine is unworthy of such a boon, as the restriction of medical practice to properly qualified persons would prove. The calls upon us, in the public service, and in the vast machinery of charitable ministration of the profession to the sick, should alone entitle us to such reform of the laws relating to medicine. More than this, the rights of the lives of the sick poor to legal defence demand it. Glad indeed shall we be if, at the next meeting of the British Parliament, our Sovereign should echo the words of the King of Prussia, and tell her assembled Lords and Commons, "The draught of a law regulating the practice of medicine will shortly be laid before you."

THE GREAT EXHIBITION.

We believe that one of the sub-divisions of the Great Exhibition of 1851 includes surgical instruments, and all surgical and medical appliances of a mechanical kind. We should hope that, in this respect, the honour of the profession in this country will be upheld. We have no doubt that the ingenuity of America, France, and Germany, in all that relates to the diagnosis and treatment of disease by mechanical means, will be fully represented at the forthcoming Exhibition. We make these remarks with a view of stimulating the profession in this country, and inducing its members not to suffer such an opportunity of professional and national distinction to pass unimproved. We have as yet heard no note of preparation, but we trust that not the least interesting section of the "crystal palace" now rising as if by magic, will be that devoted to an exemplification of the applications of art and industry to the profession of medicine and surgery, and the relief of human disease and suffering.

QUACKERY RAMPANT.

Many persons are apt to exclaim—"Quackery was never so rife and rampant as at the present moment." At the first view of the matter this would appear to be the case; but a careful review of the past would show that, in this respect, the present is not worse than former times. The credulous, the conceited, and the ignorant, will always be led away by what appears startling and novel in a profession like that of medicine. He who cannot untie the Gordian knot thinks his purpose as well answered by cutting it; so he who has neither the patience nor the capacity to acquire a knowledge of medicine, shrinks from the task, and contents himself with falling back upon a generalization which saves him much labour and much thought. The more simple that generalization appears, the easier it is grasped; the less trouble it requires to understand it, the more popular it will be for a season. Just half a century ago it is calculated that upwards of 30,000 metallic tractors, of Perkins, were in use in England. These little instruments possessed far more power than the globules of the present day, and disease shrank from their contact like the mist before the sun. A few years, and this deceit gradually expired, and people were astonished that they had ever been so foolish as to have believed a syllable of the pretended cures. Some sessions since, a metallic tractor was exhibited at the Medical Society of London, by Mr. Iliff, as a curiosity. But quackery did not die with the metallic tractors. No, a newer and more absurd delusion succeeded, which lasted its hour, and gave way to another. As the ghosts that appeared to Macbeth, they

"Come like shadows, so depart."

How many were deluded by the Hohenlohe quackery—by Morrison's pills—by Mesmerism—by magnetic rings—by brandy-and-salt? The last monstrosity, Homœopathy, the most absurd of all, has acquired an importance, temporary as it must be, for many reasons. One of the many, we regret to say, has originated in certain dishonest members of our own profession—men who, for the most part, have failed of success in the legitimate walks of medicine, from ignorance, idleness, or other causes. These men, unable, from their shallow capacities and acquirements, to fight fairly, and to compete manfully, with their brethren, have shrunk, as it were, behind the hedge, and turned assassins, to obtain a livelihood. Yet, not content with practising a quackery, the absurdity of which has no parallel in history, these renegades lose no opportunity of placing their daggers in the reputation of legitimate medicine. But the delusion will fail, as all such delusions must; another form of quackery will rise, and a Globulist, if, in a few years, such can be found, may be exhibited, as was the metallic tractor, as a curiosity.

ARMY MEDICAL DEPARTMENT.

M. Thiers, speaking of the great arrangements of Napoleon, during the first Polish campaign, says, that in ordinary histories of war, we see only armies completely formed, and ready to enter into action; but it can scarcely be imagined what efforts it costs to bring the armed man to his post equipped, fed, trained, and lastly cured, if he has been sick or wounded. In this enumeration, M. Thiers has omitted the care necessary to preserve health, and to prevent sickness—the greatest and most important branch of our profession, although as yet but imperfectly cultivated and understood, in civil life especially. This branch has been properly designated *State Medicine;* and it is to its practical application, in so far as the science is now understood, that we owe the present health of our fleets and armies.

All the difficulties enumerated by M. Thiers are, he says, increased, in proportion to the change of climate, or the distance which the army moves from the point of departure. Most generals and governments neglect this kind of attention, and their armies melt away visibly, as did ours at Walcheren, Rangoon, and in China. Those only who practise them with perseverance and skill find means to keep their troops numerous and well disposed.

With the "difficulties" here spoken of, our statesmen and civilians have never grappled, and they are up to this hour incapable of appreciating a tithe of them. But our generals, colonels, surgeons, staff and regimental, and commissaries, all who have any experience in war, are very conversant with difficulties which often overwhelm them. Not so, however, the official sitting at his desk. There are no difficulties in using pen, ink, paper, pounce, and red tape. The whole thing is done at once; and there end all *his* difficulties.

We hope we have, on recent occasions, said enough to show, that into the hands of *dilettantes* the medical department of the army should on no account be placed; and there is one man in England, whose voice should be raised against this great public injury — Sir James M'Grigor. Against the dimbles of offices already over-worked and over-crowded, and against the fingers of *dilettantes*, his honest protest should be recorded. His official career is closed, and he ought personally to have nothing more to seek or to expect from men in power. He is therefore completely independent, and free from official influences.

In the very probable event of an inquiry into the subject in Parliament, we hope that a protest from so becoming a source may be found for the enlightenment of our representatives. A personal experience and knowledge of the subject, such as are possessed by no other man, ought to render a formal disclaimer from Sir James M'Grigor irresistible.

The past to this distinguished officer is one of most honourable contemplation; the present is an equally honourable retirement; but there is, we hope, a great future for the profession to which he belongs, and to the department over which he so long and so honourably presided.

To be the means of setting this department to rights, for the benefit of the soldier, were "a crowning victory" worthy of Sir JAMES M'GRIGOR's whole career. From no other man could such a service come with so much grace; from no other man could a protest against ignorant mismanagement come with such effect.

MARSHALL HALL AND THE ROYAL SOCIETY.

IT gives us great pleasure to observe the name of DR. MARSHALL HALL in the house-list recently issued for the election of the Council of the Royal Society. It is a satisfactory, though tardy, acknowledgment of the great and meritorious services rendered to physiological science by this distinguished physician. We take the opportunity of remarking, that the changes which have occurred at the Royal Society within the past two or three years, form the most splendid tribute perhaps ever offered to the power of fearless and independent journalism. The part taken by THE LANCET in these events is one of which we may well be proud. They also bear testimony to the indomitable power of truth in eventually overmastering all opposition to its progress, from whatever source arising, from interest, from prejudice, or from ignorance. In 1837 a paper, containing a new and important truth, is unjustly refused a place in the *Philosophical Transactions*. This wrong smoulders for years, and remains unredressed. In 1845 a second grave injustice is committed. Truth was insulted, first in the person of Dr. HALL, and then in that of Dr. LEE. But mark the result: the truths established, spurned and degraded in the eyes of Europe as far as they could be by official conduct, rise up with such power, that they shake the Royal Society more than it had been shaken by any other events during the two centuries of its existence. They disgrace the actors who had sought to throw contumely upon them, and successively they remove from power the most securely-seated Secretary which the Royal Society ever possessed; they dethrone an eminent, if not a popular President; they reform the Council, and they destroy altogether the Committees which had been the engines of wrong and mischief. Well might the Roman orator exclaim, "*O magna vis veritatis.*"

Reviews and Notices of Books.

Physical Education Founded on Physiological Principles. By LOUIS HUGUENIN. pp. 75. 1850.

"MENS sana in corpore sano" is an old and admirable desire which ought to be more frequently kept in remembrance than it is by many people at the present time. If the body be debilitated, either by disease or inattention to the ordinary rules conducive to health, the mind sympathizes and suffers; hence, an individual, whether as a moral or physical agent, becomes less able to perform those duties which he is called upon, as a member of society, to undertake. In England there is plenty, if not sometimes too much, mental culture, especially in the way of accomplishments, as they are called, in the education of young females, whilst the physical improvement of the body, the temporary dwelling of our immortal minds, is often lamentably neglected. To assist in remedying this deficiency is the object of M Huguenin's treatise, and although we may not agree in all the propositions of the author, several of his remarks deserve consideration. In our opinion, bodily exercise may be sometimes pushed too far, even to the injury of the corporeal frame; and this occasionally occurs when employing those mechanical means Art has invented, but which are unsanctioned by Nature. Again, exercise in the open air always proves much more beneficial to the human constitution than the same amount of muscular exertion in-doors, whereby cricket, golf, and various gymnastic recreations, are far superior to billiards, fencing, single-stick, and other amusements, usually performed within four walls, and in often crowded assemblies, which not only deteriorates the atmosphere of the apartment with bad air from many human lungs, but likewise with tobacco-smoke; and if at night, by oil-lamps and gas-lights. Exercise, to prove really salubrious, should be always in open and pure air, the breathing of which improves the quality of the blood, exhilarates the mind, and at the same time tends to tranquillize the excited nervous system; whereas the former often deteriorates the blood, exhausts the muscular frame, and excites also the nervous system; hence, instead of being beneficial, it is often detrimental. As an "argumentum crucis," it will suffice to compare the effect upon the body and mind of an individual rambling over the hills of an open country, with that produced upon another, who has passed the same number of hours in a confined ball-room, crowded with human beings. The former proves highly salutary, the latter only benefits the apothecary.

M. Huguenin's *brochure* contains, as a frontispiece, a lithographic engraving, to show the various machines employed in the physical education he recommends; but although the machinery seems ingenious, we hope it is not necessary for the pupil who may wish to employ any of these adjuvants for exercise to appear in moustache, and with a bushy beard, as represented. Either must be superfluous; and believing that a clean face is a good thing, and is often indicative of the pure mind within, we object to this dirty fashion the artist has delineated, which, however, becomes still more objectionable, when the human countenance is further disfigured by fire and smoke.

On the Structure of the Spleen. By W. R. SANDERS, M.D., Pamphlet. pp. 56. Sutherland & Knox.

DR. SANDERS has added little to our previous knowledge of that complex organ, the spleen. He has, however, given a very accurate and succinct account of the discoveries of other physiologists. He concludes his paper with the following general statement respecting the structure and functions of the spleen:

> "1. The spleen is a secreting organ; the Malpighian sacculi and the pulp being the secreting apparatus, and showing all the essential elements of glandular structure.
>
> 2. The circulation of blood in the spleen is distinguished by the shortness of its circuit, produced by the sudden transition from large to small vessels.
>
> 3. The secretion of the spleen is probably some albuminoid material.
>
> 4. The veins, which are of large size, in great number, and peculiarly dilatable, probably absorb the secreted product, and carry it into the circulation. They would thus have considerable analogy with the umbilical vein, which further agrees with the splenic in belonging to the portal circulation. It is probable that the portal circulation performs a function of nutritive absorption.
>
> 5. There is deficiency of anatomical proof that the lymphatics are the excretory ducts of the spleen?
>
> 6. There is a close analogy both of origin and of structure between the spleen, and the thyroid, thymus, and supra-renal bodies."

Dr. Sanders suggests, that the following departments of inquiry present themselves to future observers:—

> "1. Formation of the spleen in the embryo.—The spleen, along with the thyroid, thymus, and supra-renal bodies, is the remains of the membrana intermedia of the blasdo-derma. The spleen is single, because it is originally developed in the mesial line.
>
> 2. The comparative anatomy of the spleen has yet to reveal the essential elements of the organ in their modifications.
>
> 3. The analogy of the spleen to the other vascular glands is gradually becoming more definite in proportion as their structure is better known. The corpuscular elements, consisting of granules and plasma, nuclei and cells, are nearly identical in all of them; the supra-renal bodies being distinguished by the frequent excess of oily granules. In the more complex structures, a great similarity obtains. The vesicles of the thyroid, in particular, resemble closely the splenic sacculi; consisting of an external vascular and fibrous layer, covering a spherical homogeneous membrane, which is lined internally by a more or less complete layer of nucleated cells, and contains plasma and corpuscles in its interior. In the human thyroid, the contained corpuscles are generally in small number, and the vesicles being filled chiefly by a clear fluid, their structure is easily seen; and small vesicles, of various size, are noticed in the interior of some of the large ones, indicating their mode of reproduction. In the supra-renal glands, the similar vesicles are somewhat elongated; and, being placed endwise, greatly resemble tubles, as Ecker has described. In the thymus, the vesicles are modified by constrictions into the form of follicles. (Simon.) In all these modifications, however, the vesicles exhibit the same essential structure which is seen in the spleen and the thyroid."

Statistics of the Amputations of the Large Limbs that have been performed at the Massachusetts General Hospital. By GEORGE HAYWARD, M.D. pp. 16.

THE following passage embraces the main points of Dr. Hayward's pamphlet:—

> "It appears, then, from these tables, that the whole number of amputations of large limbs that have ever been performed at the hospital, is 146, on 141 patients. Of this number 32 died.
>
> "Eighty-five had their limbs removed in consequence of disease, of whom 10 died.
>
> "Fifty-six in consequence of injury, of whom 22 died; being 1 in 8½ of the former, and more than 1 in 3 of the latter.

69	patients had the thigh amputated...	19 died.
50	had the leg removed below the knee	10 „
11	had amputation above the elbow....	1 „
11	had amputation below the elbow....	2 „
141		32

"The ages of the patients were as follows:—

Under 20 years of age,	26,	of whom	4	died.
Between 20 and 30	56,	„	11	„
„ 30 and 40	28,	„	10	„
„ 40 and 50	18,	„	5	„
„ 50 and 60	7,	„	1	„
„ 60 and 70	4,	„	1	„
Over 70	2,	„	0	„
	141		32"	

Remarks on Insanity: its Nature and Treatment. By HENRY MONRO, M.B. Oxon., Fellow of the Royal College of Physicians. In Two Parts. Part I. London. 1850.

Under this unpretending title, the reader will find some very interesting and instructive observations on insanity. He will herein see the impressions conveyed to an earnest and philosophic mind, practically engaged in the study of the phenomena of mental disease. The views which the author adopts as to the nature of insanity cannot be more clearly expressed than in the following words:—

> "Without seeking for any more subtle or metaphysical cause for insanity, we may believe insane phenomena to arise from those states of *irritability and deficiency* of action in the sensorium which are the consequences of loss of nervous tone;—that these two degrees, of morbid excess, and suspension of function, fall coincidently upon different parts of the sensorium; that the first condition affects particularly the seat of the more elementary phenomena of mind, and that the latter condition, of suspension or partial paralysis of cerebral power, affects particularly the seats of the higher faculties."

This view the author supports by, in the first place, considering the general condition of the insane mind, and describing the several modifications which constitute the different forms of varieties of insanity; and, secondly, by discussing the nature and causes of several mental phenomena, which in many points resemble those which exist in insanity. These phenomena being admitted to depend on impaired nervous tone, he seeks by analogy to support his views of the nature of insanity by referring both to the same source.

The author then advances a second inference, that this state of nervous depression in the insane is consequent upon a constitutional and congenital want of vital power in the brain. External agents act as exciting causes of this loss of vigour, but both the predisposing and proximate causes are in the organ itself. On this frame-work is woven a series of most interesting and instructive facts, observations, and inferences.

Throughout the essay, the author seems careful to regard nervous matter or material simply as the instrument by which mental phenomena are manifested, and, though he confines his attention to showing, in the present part, the *probability* of the view which he adopts, reserving the *proof* until he comes to consider the actual physical condition of the insane, and the results of treatment, we cordially recommend the work now before us, to all who take an interest in studying the nature and treatment of insanity.

Our Institution and its Studies. An Introductory Lecture delivered at the Bristol Institution, for the Advancement of Science, Literature, and the Arts. By JOHN ADDINGTON SYMONDS, M.D. Bristol: Evans & Abbott. Pamphlet. pp. 41.

AN interesting and eloquent address.

Report of the Standing Committee on Medical Literature, presented to the American Medical Association. Pamphlet. pp. 37. Philadelphia.

OUR transatlantic brethren have set us a good example by this "Report." The critics of criticism and literature have treated the whole subject of inquiry with much ability.

A Treatise on Diseases of the Larynx and Trachea: embracing the different forms of Laryngitis, Hay Fever, and Laryngismus Stridulus. By JOHN HASTINGS, M.D., &c. 8vo. pp. 160.

THIRTY-FOUR years ago, Sir Charles Bell first drew the attention of the medical world to the practicability of applying a solution of the nitrate of silver to the interior of the larynx, for the relief of diseases of those organs. The boldness, however, of the measure, which no doubt to many seemed impossible, and to others fraught with great danger, operated against its adoption; and the practice sank into oblivion for many years. In 1846, Dr. Horace Green of New York, revived, in America, Sir Charles Bell's plan, of the direct application of caustics to the mucous membrane lining the larynx and trachea, by means of a sponge attached to a curved whalebone. The credit is due to Dr. Hastings for having revived this method of treatment in England; and he has farther developed the resources of this kind of medication on the mucous surfaces of the windpipe to a greater extent than has yet been done. Besides the employment of the nitrate of silver, he has made us acquainted with the use of the bicyanuret of mercury, which appears to possess great efficacy in laryngismus stridulus, a very rebellious disease at all times, and which frequently ends fatally. Speaking of the first case treated by this method, he thus expresses himself:—

> "So gratified was I at the result of the treatment in this case, that I have pursued the same plan ever since, and, excepting in one instance, with uniform success. I have treated in all fifteen cases; the bulk of them have recovered as quickly as the one above mentioned; and in those that were slower in regaining their health, the severity of the symptoms rapidly diminished, lingering only with a slight amount of the disease. The case which had a fatal termination was complicated with congestion of the brain; and can hardly be said to have been under my care, as the child died the day after I saw it, from cerebral convulsions, from which it had repeatedly suffered."—p. 157.

The author has shown, in a concise manner, that this treatment is extremely beneficial for all forms of laryngeal disease; and he has availed himself of various modifications both as regards the caustic to be used, the strength of the solution, and frequency of application, in the different varieties of these affections. For the modus operandi, we refer the reader to the book itself, which gives full directions, as well as wood-cuts of the instruments that are necessary in the application of caustic to the parts.

We cannot, however, close our notice of this little work without observing, that, in the preliminary chapters on the "symptoms, causes, diagnosis," &c., are some valuable observations, from which the practitioner may gather real information.

Surgical Report on Bilateral Lithotomy; with General Remarks on Operations for Stone. By J. NOTTINGHAM, M.D. 8vo, pp. 101. London.

THE immediate object of the work of Dr. Nottingham is to recommend the bilateral operation for stone in all cases where the calculus is large; and he founds this opinion chiefly on the experience of one case, which he details at some length. The main part, however, of Dr. Nottingham's little book consists of a *resume* of the opinions of operators for lithotomy, in which the operation in question is fully canvassed. He refers with satisfaction to the opinion of Dupuytren, who invariably removed calculi by this operation. It is now, however, by no means so frequently practiced as it used to be, either by British or Continental surgeons; nor do we think that the solitary case of Dr. Nottingham will have much influence in reviving the bilateral section.

The Elements of Materia Medica and Therapeutics.—Vol. II. Part I. By JONATHAN PEREIRA, M.D., F.R.S. Third edition, fcp. 8vo, pp. 658. London: Longman & Co.

THE "Materia Medica" of Dr. Pereira is so well known and appreciated as to render any extended notice, in this place, unnecessary. The present edition (the third) is very much enlarged and improved, and includes the latest discoveries and views respecting medicines and their properties. We believe that this work has no equal in value as a book of reference or of general information on materia medica.

Thirteenth Annual Report of the Dundee Royal Asylum for Lunatics. 1850.

Annual Report of the Royal Edinburgh Asylum for the Insane, for 1849.

FEW documents are more important, either medically or socially, than the periodical Reports which now issue from most of the lunatic asylums in Great Britain. Occasionally, they contain a little more self-laudation and "soft sawder" to the superior authorities, than good taste requires; nevertheless, as much valuable matter and useful statistical data are so often published by the medical officers of these institutions, we willingly put aside the chaff occasionally met with, and collect the seed, which, in due time, if elsewhere sown, will fructify abundantly. Entertaining these notions, we select from a pile of Reports on our table the two whose titles head this article, in order to show the progress our Caledonian countrymen have made in the cause of humanity, when ameliorating one of the greatest afflictions incident to mankind—mental alienation.

According to the Dundee Report, now in our hands, the number of lunatic inmates in the Asylum, last June, was 204, of whom the majority were male patients; but this discrepancy, compared with most other similar institutions, depended more upon the limited extent of accommodation for females, rather than any decreased frequency of insanity amongst women. The cures amounted to forty-five per cent. of the admissions, whilst the deaths were five and a half per cent. of the mean number resident. This forms a small rate of mortality; and it should be stated that more than double the number of men died compared with the deaths amongst female patients, of whom a larger proportion were cured than of the other sex, thus showing that mania is more curable, and less fatal to women than men. Respecting the assigned causes, drunkenness was the most frequent; next, grief and disappointment; whilst pulmonary consumption, and general paralysis, along with senile exhaustion, are reported to have proved the immediate cause of death in the largest proportion of the fatal cases met with. Other interesting details might be mentioned, but our limited space prevents us from saying more at present, except that the Dundee Asylum maintains the high character it has already acquired throughout Scotland.

The Edinburgh Asylum is a recently enlarged institution, and contained, last January, 476 inmates; 224 being male, and 252 female lunatics; the admissions during the year 1849 having been 109 men, and 158 women; whilst the cures amounted to forty-two male, and seventy-seven female patients; the deaths being forty-two men and thirty-seven women. These facts, however, prove that, at this Asylum, mania was more common, oftener cured, and less fatal amongst the female sex than the male, which is consistent with general experience. In the rather lengthy Report of the resident physician, various particulars are mentioned, which merit notice. For instance, the largest proportion of admissions was of patients from thirty to forty years of age, although the greatest number of cures, in comparison with the number admitted, was reported in patients from the age of ten to twenty; of whom fifteen were admitted, and fourteen cured. Mania formed the most common variety of mental disease; next, dementia; and it is instructive to mention, that sixteen patients laboured under general paralysis, only one of whom was a female. Puerperal mania seems also to have been common, more so, indeed, than in the previous year. Amongst the 265 patients admitted last year, sixty-one were suicidal cases, whilst intemperance, by far the most frequently assigned cause, appears to have numbered its victims with even more frequency than in former seasons. Consumption, diarrhœa, and general paralysis proved the immediate cause of death in the largest proportion of the fatal cases reported. In this asylum, as in that of Dundee, general paralysis thus seems to have been, not only of frequent occurrence, but often the cause of death; which shows that the above form of malady is more common in Scotland than it has hitherto been thought to be in England. Another important feature in the Edinburgh Report likewise deserves notice—viz., that post-mortem examinations were carefully made, and the morbid changes recorded, in twenty-four cases, of which an abstract is given of the morbid appearances; the chief of which were, opacity of the arachnoid, in six cases; effusion of arachnoid, in six others; effusion of sub-arachnoid, in four; congestion of membranes in three; congestion of hemispheres, in three; increased density of brain, in two patients; with other varieties unnecessary to mention.

Besides medical treatment, the moral management of the insane now constitutes an important part in every well-regulated asylum; hence, occupying the patients formed a prominent feature at the Edinburgh Institution, where amusements were likewise employed as adjuvants, upon which point the Report remarks:

> "The various sources of recreation and healthy amusement of former years have continued in full operation during the past. The monthly periodical, written by the patients, has been entirely printed by them, with the exception of one or two numbers, there having been no hired printer in the establishment during the greater part of the year. The circulation of our little journal has been extended; and the profits continue to afford a liberal supply of newspapers and periodicals."

Besides these recreations, we would observe, in concluding this notice of the Edinburgh Royal Asylum, that the "weekly balls and concerts preserve their popularity in the house, and have been varied, from time to time, by such changes as were calculated to increase the interest and amusement afforded."

On the Therapeutic Application of Electro-Magnetism in the Treatment of Rheumatic and Paralytic Affections. By ROBERT FRORIEP, of Berlin. Translated by R. M. LAWRENCE, M.D. 8vo. pp. 205. London: Renshaw.

THE employment of galvanic electricity in the treatment of paralytic, rheumatic, and other chronic affections, has hitherto been chiefly in the hands of the ignorant and the empirical, who have used this remedy without any reference to the pathological condition of the cases presented for treatment. Dr. Froriep has supplied a deficiency in this mode of treatment, and has, in the work before us, rendered a service to therapeutics. The cases selected by him for publication are chiefly those of a rheumatic character. The pathological conditions, however, which electro-magnetism appears to be most efficacious in removing, consists of what Dr. Froriep calls "induration" and effusion consequent upon rheumatic inflammation; of these he gives a great number of cases. The chapter on coxalgia is interesting, particularly the observations on the diagnostic differences between hip-joint disease and rheumatic affection of that articulation. In respect of the seat of mischief in hip-joint disease, he confirms the views of Mr. Coulson—viz., "that the disease commences invariably in the synovial membrane; that the round ligament is very early destroyed; and that the disease of the cartilage and bone usually follows that of the membrane." (Coulson on Hip-joint Disease, 2nd edition.)

Dr. Froriep, however, we think, has, in his desire to raise the character of electro-magnetism as a curative agent, excited expectations regarding its efficacy in some diseases which we believe will not be realized. It is to be regretted that a really valuable agent cannot receive commendation by its advocate without his overstepping all rules of moderation and prudence. Dr. Lawrence has performed his duty as translator very creditably.

Miscellaneous Correspondence.

POISONING BY DENTISTS.

To the Editor of The Lancet.

Sir,—Pray find room for a word of caution, which, admitted to your pages, may chance to save life, and economize, for the newspaper press, on the penny tariff of a "poison paragraph." It is a case, believe me, Sir, for "urgency," without debate. Certain dentists—be it known, through you, to all with teeth in their heads—are in the habit of "*stopping*" with arsenical paste. Of the "great scientific fact" here announced, I was first informed by a lady, in whose mouth this virulent poison had been made "at home" some few days back, and who has subsequently consulted me for the relief of symptoms "to match." This "improved method of dentism," which, it would appear, is of transatlantic origin, has been in vogue for more than six months past, and is already reported by its professors of paramount necessity in their art. "Stopping the teeth" with arsenic! Denounce it, Sir, in plain medical phrase, as just "stopping the breath!" Who, after this, your counterblast to poison for the toothache, would hope to succeed in "stopping your mouth" at an inquest ensuing on death from the dentists?

I am, Sir, your fellow-labourer,
Maxilla, (J. A. W.)

London, Oct. 1850.

To the Editor of The Lancet.

Sir,—In the last number of The Lancet I observed a letter from "Maxi la, (J. A. W.,)" headed "Poisoning by Dentists," wherein he kindly affords our Yankee brethren "the benefit of the Act;" and that you may be assured our friend is correct, I forward you an extract from the July number of the *Dental News Letter*, published in Philadelphia.

But although we may differ from our American friends in this as in other matters, I would offer a tribute of admiration to their exertions to raise the respectability of their dentists.

The Americans have two, if not three, colleges for the study and practice of dentistry, both as surgeons and mechanics, aided by some half-dozen publications. In England, we have—examinations, *nil;* associations, *nil;* periodical literature, *nil.* How, then, can we seek or disseminate knowledge, or offer the public assurance of competence for the office we have "taken" upon ourselves! while he who dares puff to the greatest extent of effrontery deprives the educated dentist of his just reward, and brings the art into disrepute.

Dr. Gregory, in his recent address to the pupils of St. Thomas's, reminded them, that when the Siamese connexion between the barbers and surgeons was severed, surgery took a higher standing.

How much higher would be the position of the dentist than it now is, could he be severed from the penny barber and the village blacksmith. I have in my neighbourhood an individual who "shaves well for a penny," and informs the public he is "a tooth-drawer, and that children shedding their teeth are carefully attended to."

Although many, like myself, are practising "outside the bar," not being M.R.C.S., let me ask your powerful aid in enlightening the medical profession, and the *all*-necessary public, that all dentists are not blacksmiths, barbers, or amalgamists.

I am, Sir, your obedient servant,
Charles Smartt.

Bishopsgate, Nov. 16, 1850.

Treatment of Dental Pulp Preparatory to Stopping.

By J. D. White, M.D., Dentist.

(*Extract from Dental News Letter, of July,* 1850.)

Arsenious acid is undoubtedly the *destroying agent* in every form in which it can be used. A great many dentists are now using it, combined with morphia, and with success. I cannot understand why the preparations of morphia, will not obtund, to some extent, sensibility in the pulp of a tooth. They are applied with that view to other parts of the body, and not without good effect. I know well that the sulph. morph. alone will suspend pain in the pulp, when it only arises from inflammation of that substance. I employ it constantly for that purpose, and sometimes combined with tannic acid; and always succeed in stopping the pain, even though it has been occasioned by the application of arsenious acid alone, if the external membranes are not much involved.

Arsenious Acid, Morphia, and Kreosote.—This is perhaps the best form of using arsenic that has yet been devised. I have not seen it spoken of by any authors. I have been using it thus since 1840, as a general substance for destroying the pulp; but I have tried arsenic in various other forms, as well as many other substances, before and since that period. There is no difference, in this form, in the rapidity with which it unites with the pulp, than when the kreosote only is properly combined with it; but the morphia will exert its narcotic influence, and lessen the pain, an effect which we do not often obtain with kreosote. The kreosote cannot be regarded in any light than as a mere vehicle for the proper application of arsenic.

R Arsenious Acid, gr. xxx
Morph. Sulp., gr. xx.
Kreosote, q.s. Misce.

THE HAHNEMANN HOSPITAL.

To the Editor of The Lancet.

Sir,—Observing that you invite the "contribution of facts respecting the huge system of imposture called 'Homœopathy or Globulism,'" probably you may consider the following account of a visit paid by me to the Homœopathic Hospital in Golden-square sufficiently interesting to give it a place in a future number of your journal. I am induced to record what I there observed in consequence of having been informed within the last few days that some remarks made by me were considered uncourteous, and a regret was expressed by the gentleman who introduced me, that he had done so. From this I infer that I have lost my prospect of paying a visit on another occasion, and probably pains will be taken in future to select those who are favoured with an introduction. About six weeks ago I asked a gentleman, M.R.C.S. &c., who is announced as surgeon to this *very charitable institution*, if they would allow such a heretic as myself within its walls, and was much surprised to receive an answer in the affirmative. I immediately embraced the opportunity, and within an hour found myself seated in a room where this gentleman was engaged seeing out-patients. In an adjoining room was an M.D. similarly engaged, and he is announced as physician to the institution. My attention was first drawn to the curious anomaly, that although there were both surgeon and physician in adjoining rooms, the great majority of cases that presented themselves to the surgeon were such as would have been referred to the physician in any other hospital or medical institution, where there was a pretended division of labour. On remarking this, I was informed that homœopaths were all general practitioners, and did not recognise the distinction between surgeon and physician in their practice; if so, the fact of publishing the names of certain gentlemen as being appointed in these separate capacities, is a misrepresentation. The next peculiarity that struck me was the mode of recording the cases. Each patient has a sheet of paper, very neatly folded, appropriated for his case, and on this is written, exactly as stated by him, all his fancies, sensations, opinions of himself, &c.; but little observation or examination by the surgeon is mentioned. The prescription is then written, and on a subsequent visit an endeavour is made to extract from the patient the word "better," which is recorded immediately, so that on reference to the documents of the institution, there can be no doubt of the importance and *great peculiarity* of some of the cases, and the great success of the treatment. One patient, a man who had been under treatment for some time, stated that he was "better," but that he had been obliged every day lately to hold his head for a certain time at an angle of 45°, and that he could not eat bread. For this latter symptom he was ordered "natron muriaticum," which I was informed in some clinical remarks on the case, was common salt, and that it was found, in decillionth of a grain doses*, to restore the power of eating bread; that this case was not uncommon, and that such treatment was found very successful. Another patient, a young girl with a very pale face, a large mass of scrofulous glands extending from ear to ear, and a bad cough, was found to be "better," and ordered to take the decillionth of a grain of lime once a week, and sacch. lactis, or sugar of milk, twice a day. This I was informed was to keep her under the influence of calcareum, and the sacch. lactis was a "placebo.." The patient, according to the admission of the surgeon, cheated six days out of the seven, and on the seventh day only to have a really *potent dose of medicine*. To another with psoriasis on the legs was prescribed the decillionth of a grain of black lead once a week, and sugar of milk twice a day as a placebo. For a man with stricture (and this poor fellow I much pitied, and endeavoured to intercede for), was ordered the decillionth of a grain of "canth," I suppose some preparation of cantharides. I ventured to ask what objection, as a surgeon, he could have to pass a bougie for the poor fellow, or what he expected the "canth" to do; whether to dilate the urethra, empty the bladder by some other means, or prevent the decomposition of the urine that was retained there; that the treatment had not effected this, was clear by the great complaint the man made of pain in the region of the bladder, and the thick and offensive state he said his urine was in. I was informed that the treatment was not directed to any symptom in particular, but would *cure* the symptoms gradually. Enough of the out-patients. I then was conducted up-stairs. Here were both men and women in their respective wards. One man had an ulcer on the leg which looked pretty healthy, with rest and arnica, or, as I should call it, a wet rag. Another man had had a slight erysipelatous blush at the side of his nose. He was nearly "cured," or, in my language, had nearly recovered. In the next bed was a man with ascites, with evident disease of the liver. I ventured to suggest that they would not cure him. The most important case seemed to be in the female ward, where the patient was surrounded by the screen. The physician, who was then going round, informed me that it was a case of severe organic disease, and referred me to the recorded report in a large book, which I carefully read, and found, as I had done down stairs, that it was the patient's report. The symptom that seemed to strike the physician most was, that she had on some occasion felt a "distinct snap" in her abdomen, and that immediately after there was a great discharge of matter from the *mouth*, *rectum*, and *vagina!* Having read and heard this *dreadful* account, I stepped behind the screen, and instead of a pale, wan-looking creature, espied a nice healthy-looking girl, about twenty-two years of age. She stated that she had great pain in the upper part of the abdomen; her tongue was clean; skin cool; pulse quite natural. She said her bowels had been open that day, and that she had fainted in the closet. They had been open once only before since she came to the hospital, which was a week ago; no one had seen her motion, and I supposed her case to be in the same state of obscurity it was when she was first admitted. I asked the nurse if she could not give her a dose of castor oil, and ventured to suggest to the physician that I thought he would not lose his patient with any very serious organic disease.

What I have stated is without any exaggeration; to comment on it is unnecessary.

In case of death occurring at this institution, would it not be proper that the coroner should inquire whether all due means have been employed to prolong life; and if found to be otherwise, would not some one be guilty of manslaughter at the least, or "passive murder"?

I am, Sir, your obedient servant,

Southwick-place, Hyde-park-square. THOMAS BALLARD.

A FEW QUESTIONS.

We publish the following note as a curiosity:—

To the Editor of THE LANCET.

SIR,—If you would have the goodness to answer the following questions, (I should not have troubled you,) but it will save me some hours in searching books,) you will greatly oblige

Your obedient servant,
A JUNIOR MEDICAL PUPIL.

1st. What is the use and nature of the kidneys, and have they anything to do with the bladder.

2nd. When the food goes into the stomach, what process does it undergo, and how is it carried away? Does it pass through the bowels.

3rd. What is the use and nature of the intestinal canal and the gall bladder.

4th. When water or any other liquid is drunk, what process does it undergo? How is it separated from the food, and how is it carried into the bladder?

5th. When a strong purging of any other medicine is given, by what means does it perform its object?

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* Many are not aware what a decillionth is.—I find it requires 3073 decimal places to express it, and would occupy one third of a column in the "Times," if printed in the ordinary type.

6th. How does the air that we breathe get into the capillaries in the lungs, and for what purpose is air required in the blood?

*** This "Medical Pupil" makes us, truly, a modest request. He must, indeed, be a tyro to ask questions 1 and 3; and for us to answer Nos. 2 and 5 would demand the composition of an essay, for which we have not time or space, even if we had the inclination. We refer him for answers to five of the questions to any compendium of Physiology, and for information on the subject matter of the other to any work on Therapeutics or the Practice of Medicine. We should be sorry to encourage his avowed idleness by replying to any one of his inquiries. If the desire to be saved "some hours in searching books" adheres to him throughout his career, he will make but a sorry figure in the profession he has chosen,—if he is ever lucky enough to procure a qualification to practice.

PORTRAITURE OF DISEASE BY THE DAGUERREOTYPE.

To the Editor of THE LANCET.

SIR,—For some time it has been a subject of inquiry with me, whether the means of taking likenesses by the daguerreotype or talbotype processes has ever been applied to the cases of surgical practice, such as tumours, fractures, dislocations, &c.

As the memory of such cases is often replete with interest to the surgeon and of utility to the student, I have thought this mode of taking a portrait in a few minutes might be made available in our large hospitals and other institutions, at a very trifling outlay of money, time, and labour. Either the house-surgeon or his pupils might soon manage to supply the place of artist, and in that way render the libraries and reading-rooms of hospitals museums for the benefit of the neighbouring members of the profession.

I have not been able to learn that such a proceeding has taken place in any of the large hospitals, either metropolitan or provincial; and if you think the hint worthy of consideration, I shall feel obliged by the insertion of this in your columns, and

Remain, Sir, yours respectfully,
P. H. E.

THE PORTRAIT OF MR. BRANSBY COOPER.

To the Editor of THE LANCET.

SIR,—Your Portrait of Mr. Bransby Cooper is so faithful that I am induced to ask if you could allow a copy to be struck off upon a little better paper, so as to be fit for framing.

If it is connected with the sale of your journal, I should feel pleasure in taking a copy or two of that week.

The respect and veneration in which Mr. Cooper's character is held by his pupils is, I am assured from my own feelings, such as to command a ready sale for these impressions, if you should think it worth your while to strike them.

If you would kindly inform me if my suggestions can be complied with, and at what expense, you will confer a kindness on your obedient servant,

METCALFE JOHNSON, Surgeon.

THE LEAVES OF THE CASTOR OIL PLANT USED AS A GALACTAGOGUE IN JAMAICA.

To the Editor of THE LANCET.

SIR,—In corroboration of the statements of Drs. M'William and Tyler Smith, in THE LANCET, and *London Journal of Medicine*, it is interesting to know that the galactagogue properties of the leaves of the castor-oil plant, are appreciated by the negresses of Jamaica. A gentlemen intimately acquainted with the popular remedies and nostrums of that island, in reply to my inquiries, writes as follows:—

"I have seen the oil nut leaf used by the negro women (particularly by the young women) to poultice their breasts; to use their own language, '*to make piccaninny suck belly full easy*,' or, in other words, to cause a copious flow of milk.

As the castor oil plant can be easily grown in the neighbourhood of London, I hope that during next season many practitioners may fully test the galactagogue value of the leaves.

Yours, &c.
JOHN ROSE CORMACK, M.D.

SUCCESS OF THE KOUSSO IN THE EXPULSION OF TAPE WORM.

To the Editor of THE LANCET.

SIR,—I have much pleasure in forwarding for THE LANCET the particulars of a successful trial of the kousso.

Mr. B——, residing in Cheapside, a delicate looking young man, had been troubled with tænia for some years, and had taken the usual remedy, turpentine, with partial success, having at times seen parts of the worm only. I obtained a bottle of kousso from my druggist, which my patient took on Sunday morning, the 15th; after waiting two hours, with the aid of a seidlitz powder, the monster was expelled, *tête et col* complete, measuring twenty-one feet. I need not add that my patient was highly delighted at the good effects of the kousso, and has presented me with the largest specimen of a tapeworm I have ever seen.

I am, Sir, your obedient servant,
THOMAS SMYTH.

TRIPLE BIRTH.

To the Editor of THE LANCET.

SIR,—I send you the following case, should you think it worthy a place in your valuable journal:—I was hastily sent for, on Friday evening last, to a poor woman named Eagles, residing at 24, North Cumberland-mews Bryanston-square, and found she was in hard labour. The membranes were ruptured, and a knee presented. After a few pains the first child was expelled; the second was a natural presentation, and after fifty minutes the child was born; the third also was a vertex presentation, and the birth was completed in five minutes, the placenta soon following. I had great difficulty to prevent the patient from sinking, the pulse having ceased at the wrist for some minutes. There was but little hæmorrhage. I weighed the children after four days—the first weighed 5 lb. 1 oz; the second 4 lb. 1 oz.; the third, 4 lb. 2 oz. They are all healthy strong boys. She has had four children previously. I am sorry to add the father is a poor coachman out of employment, and himself and family almost destitute.

I remain, Sir, your obedient servant,
WILLIAM ARCHER, M.R.C.S.L. &c.

A CASE FOR CONSULTATION.

To the Editor of THE LANCET.

SIR,—One one of the most useful purposes to which your valuable publication is applicable, is making known to your numerous readers any case of difficulty, and thereby gaining useful hints or information bearing upon it. It is for this purpose I solicit a few lines at present, to lay before my professional brethren a case which has caused me a good deal of anxiety, and much suffering on the part of my little patient. The child is a pale, delicate looking female, five years old, who is constantly troubled with severe pain on passing urine, so much so, as to cause her to scream out at the time; there is also a good deal of pain in passing a motion from the bowels. The appearance of the vulva is this:—On separating the labia majora, the whole surface is smeared over with a thin milky discharge, which appears not entirely to escape from the vagina, but to be secreted by the diseased surface. The labia minora and inner surface of the tibia majora are quite of a palsy-looking whiteness, not swelled or excoriated, but painful when pressed upon. Her appetite is generally pretty good, but the bowels are always sluggish, the fæces showing an evident deficiency of bile. The gums are at present red and spongy, and the lining membrane of the nostrils inflamed and irritable. There is constant picking of the nose, but with various remedies, no worms have been discovered. These symptoms, with the exception of the present state of the gums, have existed three years, though it is only lately I have seen her. Various ointments and lotions have been applied, as well as internal remedies, before I saw her, the only one of which I can recognise, from description, being nitrate of silver, which caused great pain at the time of application, but, like other remedies, was followed by but temporary relief. The following treatment has always been attended with marked benefit while continued, but does not at all eradicate the complaint:—Diluted hydrocyanic acid, sixteen drops; diluted sulphuric acid, thirty drops; tincture of opium, sixty drops; sulphate of albumen, ten grains; rose water, two ounces. Mix, for a lotion, to be applied frequently. Powdered rhubarb, two grains; carbonate of soda, eight grains; powdered cubebs, ten grains. Mix. To be taken three times a day; and, as an alternative, two grains of mercury with chalk, occasionally. With these powders, a scruple of extract of taraxacum was taken in a mixture, also, thrice a day.

Finding, however, that directly on giving up this medicine things returned to their former state, I discontinued it. Reasoning from the present state of the mouth, nose and gums, that it is an affection of the mucous membrane, something akin to what we see in "hay fever," and having lately had a case under my care where the Schneiderian membrane was so inflamed and irritable, that the patient, from the irritation of a little dust, sneezed to such an extent as to produce alarming hæmorrhage, and finding it give way completely and rapidly by the tincture of nux vomica, I have determined to try it, and have commenced with one drop in a little water, three times a day, and the following powder every night:—Precipitated sulphur, biborate of soda, carbonate of magnesia, nitrate of potass, of each, three grains. Mix.

This treatment, with the linimentum calcis applied to the vulva, has been continued four days, and though the bowels are still confined, she is a shade better, but only in so much as there has been a little less pain when passing urine. If any of your numerous readers, who have had more experience in the disease of children than myself, would kindly give me a hint, or suggest any other more likely plan, for which I feel sure you will spare them a corner, they would very much oblige the writer, and be the means of preventing further suffering to my poor little patient.

I am, Sir, your obedient servant,
A Subscriber.

A CASE FOR CONSULTATION.

To the Editor of The Lancet.

Sir,—I may say without egotism that I have treated more cases than any man in England of the kind narrated by a Subscriber in your valuable journal; and from my experience in those cases, coupled with unusual advantages in Scotland, I would suggest the propriety of a Subscriber trying the following formula for a child aged five:—Tincture of muriate of iron, half a drachm; disulphate of quinine, three grains; syrup, four drachms; distilled water, four ounces; a tablespoonful three times a day. Secretions to be attended to by moderate doses of mercury and chalk and rhubarb powder.

This treatment has never failed with me. Of course cases must be treated upon sound medical principles.

I am, Sir, &c. &c.,
Donald M'Nab Burniss, M.D.

Jermyn-street, Haymarket.

To the Editor of The Lancet.

Sir,—From the particulars stated in the case for consultation in your journal, I am inclined to think it may arise from an irritable state of the lumbar and sacral plexus of nerves.

Having seen marked benefit result from counter-irritation in similar cases, I would recommend a blister to be applied, sprinkled with camphor, extending from the last dorsal vertebra to the extremity of the sacrum. By this treatment, the irritation of the blisters comes into immediate contact with these nerves; the camphor will prevent strangury or bloody urine.

I am, Sir, your obedient servant,
T. W. Herll.

Bishops Stortford.

CREASOTE AS A PREVENTIVE OF "SEA-SICKNESS."

To the Editor of The Lancet.

Sir,—On a recent visit to the Continent I was much annoyed by sickness during that part of the time that I was crossing the Channel. Knowing that creasote has the character of a very useful remedy in this most disagreeable disorder, I regretted exceedingly that I had not taken care to provide myself with some. On my return I was again beginning to feel the same most unpleasant sensation, when I saw lady taking some on a lump of sugar. I immediately asked her to give me some, to which she readily assented, and I took about five drops between two black currant lozenges; from that time I ceased to feel at all queer, and continued perfectly well throughout the whole passage; and on making inquiries of the lady, I found that the remedy had been equally successful on her, and also on her brother. In my case the pulse appeared to be affected neither by the disorder nor by the remedy.

Should I at a future time have an opportunity of testing the powers of this medicine, I shall not fail to do so, and will let you know if it be again successful or not.

I am, Sir, your obedient servant,
A Medical Student.

To the Editor of The Lancet.

Sir,—Respecting the efficacy of creasote in sea-sickness, I would beg to submit the result of my experience, which has not been limited. I have never yet been disappointed in its use. For three years and upwards, during which I was surgeon of an East Indiaman, and made several voyages with troops and passengers, often numbering from 200 to 300 persons, I had occasion to employ this remedy in as many as fifty or sixty cases of sickness in all its forms, aggravated and otherwise, and, as I before said, I have never found it to fail. My mode of administering it was—suspended in mucilage, and flavoured with a little aromatic confection and syrup of lemons, in which form it is by no means disagreeable, nor have I ever known it to be rejected by the patient.

I have seldom had occasion to give more than one dose to ensure freedom from sickness.

Should these remarks induce those troubled with this distressing complaint to try this remedy in the form I have recommended, I can safely promise them they will not be disappointed.

I remain, yours obediently,

M. J. MacCormack, M.B., T.C.D.

THE STATE OF MEDICAL AND OTHER AFFAIRS IN CALIFORNIA.

To the Editor of The Lancet.

Sir,—As I imagine some brief intelligence of this most remarkable place, and its striking and peculiar climate and diseases, may not be unacceptable to your numerous readers, I assume my pen, to afford the result of my experience and observation, although still very unwell from the most peculiar of its maladies, which every month carries off hundreds, and in the winter thousands—namely, congestive diarrhœa, attended with severe diurnal fever.

I arrived here, Mr. Editor, after a four-months' voyage, from South Australia, having touched at New Zealand and Pitcairne's Island, in charge, as surgeon, of about 100 emigrants. Of these interesting islands, and others of the Pacific, I have much to say, but which would be irrevelant to your journal.

The harbour and *locale* of San Francisco are most superb and imposing, and crowded with from 1000 to 1500 ships, from all parts of the world. The appearance of the bay, studded with islands, and with an endless variety of promontories, until the eye is lost in the distant Sierra Nevada, is truly magnificent. The city, which is all of timber, is situated in an undulating succession of hills, like ancient Rome, and is extending up and down, even far into the sea, as fast as two or three hundred thousand (?) workmen can push it; and when I mention that the pay of the common day-labourer is five dollars of four shillings, and that of masons and carpenters ten, you may suppose what money is expending; in fact, the specie seen here, in all quarters, every day, is astounding—little errand-boys chucking their dollars as they go along, and staking them at the *monte tables*.

The diseases of Alto California may be considered as consisting of four varieties, and they are so peculiar, that I have never seen nor heard of anything like them in my lengthened experience in the profession. They consist of the congestive diarrhœa; the poisoned hand; the effects of the *zethera*, or poison oak; and a peculiar species of ophthalmia.

The congestive diarrhœa consists of a combination of fever, ague, and diarrhœa. The patient is attacked, about four P.M., when the sun is generally burning, and the wind high and cold, with a shivering. For this, if he is a new comer, he rushes into the nearest *café*, and calls for a glass of brandy-and-water hot, which he drinks. He then sallies out, and walks, thinking to get warm; but instead of that he gets colder, with a cold shivering down the back, and intense pain in the hinder part of the head. He then hurries home to his boarding-house, where every discomfort awaits him. A thin shingle roof to protect him against the burning sun of noon, the cold, parching wind of the afternoon and evening, and the cold dews and fogs of night, he turns into a miserable *bunk*, for which he pays twelve dollars a week, and finds himself, before midnight, in a burning fever, his head splitting, his back aching, and his abdomen distended with gas, and in a state little short of peritonitis. Towards morning a violent purging comes on, attended frequently with the passage of blood; tenesmus urgent; and a constant desire to make water, the neck of the bladder sympathizing with the irritated mucous membrane of the descending colon and rectum. His state now, without prompt medical aid, quickly becomes pitiable; he lies in bed; no one to assist or come near, to bring him drinks to assuage the burning thirst which oppresses him; his mouth feels a furnace; and his tongue becomes furred and loaded, accompanied with an aloetic, metallic taste. He sends for a physician; and all are not what they pretend to be, few having any degree, or knowledge of disease at all. The doctor arrives, prescribes a little chalk and opium, takes his fee of five dollars, and departs. The prescription is sent to the nearest apothecary, a shilling mixture of six ounces in England, costing the unfortunate patient from three to four dollars; and being quite insufficient, the disease goes on, the strength becomes exhausted, likewise the patient's purse, and he sinks, a victim to neglect and robbery. Such is California!

The system I have adopted Mr. Editor, is, I trust you will well believe, widely different from this, and it is fast meeting its reward. Having been twenty-five years a graduate of Dublin and Edinburgh, and having worked through the entire of the three years of famine, fever and dysentery, and subsequently of cholera, in the Skibbereen Union, in the south of Ireland, commencing in 1846, and terminating in 1849, in which locality I held a general dispensary and fever hospital, under the Temporary Fever Act and Dublin Board of Health, my experience of the latter disease has been considerable. Yet I am free to confess, that this Californian diarrhœa has sometimes baffled me; the combination of tissues implicated is so peculiar, and the climate so varied and trying; the water is also so bad; and the sandy deserts, on which so many thousands live in tents, are so unhealthy, and subject to such frequent vicissitudes of heat and cold. Many besides come down from the upper country, the alluvial banks of the Sacramento and San Gioachim rivers, from what is called the northern diggings, overwhelmed with fever and ague. The life they pass there, it appears, is truly appalling. And hardly earned indeed is their gold; they have to dig twenty feet under the alluvial deposit of what has been washed down from the superjacent mountains, from time immemorial, to find the gold, which lies generally on the subjacent volcanic rock, and that in pits of from twenty to thirty feet square, at the bottom of which the air is so foul that a candle will not burn; and they generally work, while seeking for the gold, in from two to three feet of water, and that for hours, often with little or no success. They have besides to watch by night against robbers and grizzly bears, and lead a life of the utmost anxiety, labour and distress, for which some are amply rewarded, but others lose their all; it is, in fact, a lottery. I yesterday held in my hand a piece of pure gold as big as my two hands, and smaller and larger pieces are often found; but it is all luck, and no external indication can guide the most experienced and intelligent to the favoured spot. There is no doubt that the whole of California is full of gold, and new diggings are discovered every day; a new one has just been discovered at San Jose, about sixty miles from this, to which place multitudes are hurrying; there are, it is said, over 100,000 persons on the Yuba branch of the Sacramento.

Robberies and murders are very frequent here. The evening before last a man was knocked down in the open plaza, in presence of hundreds, and robbed of sixty dollars before he knew where he was; and it is expected there will be fearful work of robbery and murder in the winter, when the starving thousands come down from the mines, penniless and disappointed, as all cannot find gold, and will not starve. The Lynch-law is quite given up, and the American system introduced. Last week a man was carried past my door, shot through the eye, dead, arising from some quarrel at a *monte* table, and nothing was done to the murderer. The murdered man was a Mexican, and a fine young man. All are gamblers, and armed—a word and a shot on the slightest provocation.

Such is the true state of California. For God's sake, Mr. Editor, persuade every one from coming here, for it is a hell upon earth; and if money is to be made here occasionally, it is hardly earned, by the sacrifice of health, comfort, and quiet. It is, however, better than the colonies; there is no money there; nothing but a fine climate, and plenty to eat and drink. Let no medical man who can get bread and cheese at home go to Sydney, Port Phillip, or Adelaide, or he will have most likely to turn bullock-driver, as more than half do, and get lost forever. Too many, alas! are deluded, to their temporal and eternal ruin, by being induced to go out as surgeons to emigrant ships. The scenes I have witnessed of well-educated respectable young men, in rags, were fearful to behold.

I have the honor to remain, Sir,
Your obedient servant,
J. Hungerford Sealy, M D., A.B.

Stockton-street, San Francisco, Alto California,
Sept 8, 1850.

Medical Facts, News, Items, &c.

The Cholera in Algeria.—The disease has just broken out in Algeria. The *Akhbar* of the 12th of October says:—"The cholera had almost ceased in Algiers, when in the night from the Saturday to Sunday it broke out with the violence and rapidity of lightning. The people were very much alarmed, and to calm exaggerated fears we give the exact numbers. During the day from the 20th to the 21st of October—viz., from the Saturday night until Monday, at ten in the morning, there have been forty-five deaths out of sixty-two cases which occurred, both in the town and in the lazaretto. This number does not include the deaths among the garrison and the Mussuleman population, which are said to have been considerable." The disease has not continued to rage in the same ratio; the next day the number of cases was materially diminished.

The Fellowship.—At the examinations for this distinction on Tuesday and Thursday last, Dec. 5th, only four candidates presented themselves to undergo the ordeal. The names of the new fellows will be published in our next number. We subjoin a list of the questions on anatomy and physiology submitted to the candidates on the 3rd inst.—viz.,

1. What gland pours their secretions into the mouth? Describe the situation and connexions of the parotid.
2. Describe the elbow-joint, and the mechanism by which rotation and supination of the hand is performed.
3. Describe the position, course, and connexion of the intestinum rectum in the male, and mention the peculiarities of its structure.
4. Describe the course of the common iliac artery; its relative position to the parts around on the left side; the point of its bifurcation; and course and relative position of the external iliac.
5. Describe the distribution of the arteries supplying the abdominal portion of the organs of digestion.
6. Enumerate the parts occupying the upper opening of the thorax, and describe their relative situations.

The following questions in pathology and surgery were submitted to the candidates on the 5th inst:—

1. Describe the healing process, by adhesion, by granulation.
2. Describe the most frequent causes of suspended animation, their modes of action, and how death is to be averted.
3. Describe the evidences of the presence of a foreign body in the air-passages, the operation for its removal, and the difficulties and dangers which may attend it.
4. Describe the morbid changes which attend the formation and progress of a popliteal aneurism; the operation for its cure by ligatures and by compression of the femoral artery; how do these two modes of treatment act in the cure of the disease, and what are their respective merits?
5. Describe the effects of rickets on the bones generally and specially. Give the treatment of the disease.
6. Enumerate the diseases of the eye in which morbid action originates in the conjunctiva.

Opening of the Session at the Faculty of Medicine, Paris.—The session of the Paris School of Medicine was opened, with the usual ceremony, this year. It is usual to devote the speech delivered by one of the professors, to the panegyric of some deceased teacher at the school, when such a demise has taken place; and after the discourse, the prizes awarded in the preceding session are publicly presented to the successful candidates. The speech was this year entrusted to M. Velpeau, who sketched out, in a very attractive manner, the life of M. Marjolin, the late professor of systematic surgery to the Faculty. M. Marjolin's name is not so familiar in this country as are those of Roux, Velpeau, Malgaigne, &c., probably because he never shone as an operator, nor much enriched medical literature. We learn, however, from M. Velpeau, that the departed professor had, through unwearied exertions, and starting with very limited means, placed himself in the foremost ranks of his profession. He had been a teacher at the faculty for more than thirty years, and commanded the largest private practice in the French metropolis. Yet we gather from the history of his life, that all his success was obtained by dint of perseverence and hard work, without any connexion or protection whatsoever. After M. Velpeau's discourse, the prizes were distributed, and the work of the session is now commencing.

Health of London during the Week ending Saturday, November 30.—The sudden increase in the last bill of mortality, has been followed by a more remarkable decrease. The following numbers show the fluctuations in the returns during the four weeks of November:—921, 908, 1016, and in the week ending last Saturday, 861, which if corrected for increase of population, are less than the corrected average by 303. The young, the middle-aged, and persons of advanced years, all now participate in an improved state of health. Deaths from zymotic or epidemic diseases remain nearly the same. The aggregate of fatal cases by epidemics was in the proceeding week 203, in the last 196; in affections of the respiratory organs, the number, which rose to 201, has now fallen to 160. Between the 21st and 28th of November, 8 pensioners died in the Royal Hospital at Greenwich, in most cases, of paralysis, or apoplexy. Last week, the deaths from small-pox amounted to 14, all amongst children; and, though it is still below the average, the disease appears to be making progress in the metropolis. In Marylebone, in different houses of a single sub-district, that of Christchurch, no fewer than six deaths occurred from "variola, natural" in the week: and the registrars repeatedly mention facts to prove that the children of the working classes, in many cases, are not protected against the disease, owing to prejudice entertained against vaccination. Measles carried off last week 25 children, and it is stated to have broken out in the Pancras workhouse (Camden Town sub-district;) scarlatina carried off

30; and 47 persons of various ages died of typhus. Diarrhœa has now declined to 13; and no case of cholera was registered. The births of 773 boys and 709 girls, in all 1482 children, were registered in the week. At the Royal Observatory, Greenwich, the mean daily reading of the barometer for the week was 29.595 in. The mean temperature was 40° 5. On the last four days the wind was generally in the north or north-east. The horizontal movement of the air on Sunday, the day of a violent tornado, was 420 miles, and on the same day the greatest pressure on the square foot was 19 lbs.

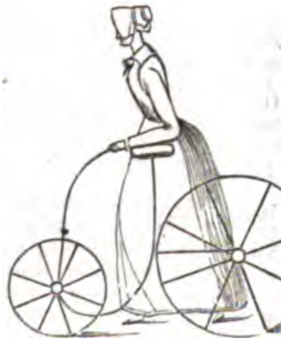
New Inventions

IN AID

OF THE PRACTICE OF MEDICINE AND SURGERY.

The Pondepede.

The above name is employed to designate a vehicle which has been invented by Dr. Calvert, an army medical officer, with the view of affording facilities for some degree of exercise, and the enjoyment of the open air, to patients suffering from spinal disease, or who, from other causes, are little capable of walking. It consists of a light metallic frame, wholly open behind, and with a wheel on either side, connected with the axle of which are two uprights, supporting rests for the elbows and forearms, which can be raised or graduated to any height. In front is a wheel, smaller than the others, which may be turned so as to guide the apparatus at the will of the pedestrian. It is, in short, a kind of improved go-cart.



The person using this machine stands, as must be obvious, between the lateral wheels, resting the arms upon the supports, and thus, of course, relieving the spinal column and lower extremities from much weight, which, unassisted, they would have to sustain. The labour of progression felt by invalids would, says Dr. Calvert, by this means, be much abridged. By an additional contrivance a seat may be formed of a band stretched across from side to side, behind the upright right arm-rests, and, whether walking or sitting, it is supposed that the patient might move the vehicle forward by the employment of very little muscular force. Dr. Calvert submits his notion of this apparatus to his brethren of the profession, soliciting their suggestions for any improvement which they consider he might introduce into his plan. We do not know whether any of these machines have yet been manufactured for use; but Dr. Calvert's model, which we have inspected, is at the manufactory of Mr. Minter, in Frith-street, Soho. The idea is certainly highly ingenious; but it is obvious that nearly all the utility of the vehicle must depend upon the skill of the manufacturer in making the wheels revolve upon their axles with the most extreme facility, so that the least amount of force may be adequate to set them in motion. Dr. Calvert has derived the name by which he designates his invention, from the words *pondus e pede*, implying that by its means the weight of the body is taken away from the feet.

The Respiratory Organ and Chest Protector, lately invented by Mr. Cook, of Princess-street, Hanover-square, is a remarkably neat contrivance to remedy the defects that have hitherto existed. This respirator is very convenient and simple, and occupies so little space that it may be carried in the pocket. That for gentlemen has somewhat the appearance of a stock;—that for ladies, of an elegant neck-tie, with a little fold, invisible when down, but readily adjusted over the mouth by means of an elastic band. Mr. Cook's respirator fulfils admirably the intention of the inventor, and will no doubt supersede the cumbrous machine of Mr. Jeffrey's. Mr. Cook's apparatus is cheap, elegant, and effective.

Anatomical Lucubrations at the Cape of Good Hope.—A writer in the *African Journal*, a periodical published at Cape Town, after quoting at full length a humorous extract from a recent number of The Lancet, in which a race of "men with tails" were *said* to have been discovered in Central Africa, reasons on the subject in such a guise that it is difficult to discover whether he is in jest or in earnest. He says, "The public do not know, as medical men and anatomists do, that every man and woman is born with and has a tail, composed of the five, six, or seven, fixed false vertebræ of the sacrum, and of the two, three, four, or five loose ones of the coccyx at its end, (in different individuals,) all of which, however, in *common men and women*, are covered by flesh and skin, and hidden;—so that it is *not at all impossible* that there may be a variety of men, even in Central Africa, forming a tribe, who all have a few more supplementary external joints to the os coccygis than are usual; in which case they would project, necessarily, beyond the skin, and form a pendulous and exterior tail; either short, as in the Manx cats, in rabbits, hares, or deer, or longer, as in horses, dogs, monkeys, &c.; for *when once one child with this variety happened to have been born*, we know that the deformity would be perpetuated in a race like all the other varieties of men, as black, or coloured, &c., or as in families with six toes, or six fingers, or two toes united, or fingers, or toes webbed;—or, as among swine in the solid-footed pigs of South America, &c."—He also copies a paragraph from another number of our journal, in which an improvement upon the foregoing configuration was instanced—an eye being implanted at the end of the tail. The learned writer thinks that one at the end of the forefinger would be better—at any rate for midwifery practitioners. He adds, however, "It will be a long time, *we fear*, before mothers know beforehand which of their sons will be surgeons and M.D.'s, and that, by strong imagination, these sons will in consequence be born with eyes in their fingers. . . . . After all, (he avers,) the two stories have a good moral, even if not true; *but it is certainly fully within the bounds of rational probability*, that both are true." The force of faith could certainly no further go!

Yours Faithfully

W Burnett

THE LANCET.

A Journal of Medical, Surgical, and Chemical Science and Practice, Criticism, Literature and News.

MR. WAKLEY, M.P., EDITOR. J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

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A Course of Lectures

ON

SURGICAL MANIPULATION;

EXPLAINING THE USE AND METHOD OF EMPLOYING THE VARIOUS KINDS OF BANDAGES, INSTRUMENTS, AND APPARATUS,

SO ARRANGED AS TO FORM A CONCISE INTRODUCTION TO THE PRACTICE OF OPERATIVE SURGERY, AND ACCOMPANIED BY DESCRIPTIVE ENGRAVINGS.

BY EDWARD F. LONSDALE,

Fellow of the Royal College of Surgeons, Assistant-Surgeon to the Royal Orthopædic Hospital.

LECTURE II.

OF SPECIAL KINDS OF BANDAGES.

Of Bandages for the Head.

THE arrangement I shall follow, in describing the special kinds of bandages, will be—taking the different regions of the body, beginning with the head and face, and then proceeding downwards, to the neck, chest, and abdomen, then to the pelvis, and lower and upper extremities. I shall only describe those bandages, at first, which are complete in themselves, and which are employed to act as bandages only, without the aid of, or being connected with, any other apparatus or instrument. I shall reserve the consideration of the latter kinds till I come to treat of the management of the special instruments or apparatus that may be required for the treatment of particular operations. Thus, many are connected with splints, &c., or with fixing instruments to different parts of the body, as in fractures; or in reducing dislocations; besides the many special kinds of apparatus where straps and bandages form an essential part of their composition. By following this arrangement, I think the subject will be treated in a more systematic manner than by describing the bandages indiscriminately, without any reference to the region, or to the particular class of cases for which they may be employed.

The subject of *dressings* I shall consider immediately after the various bandages have been described, and shall include all the points connected with it—viz., wounds, ulcers, burns, &c.; and then proceed to what may be called the minor operations in surgery.

Of Special Bandages, for the Head and Face.

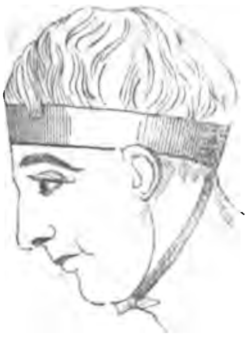
The bandages for the head and face may be considered together, for many of them include both regions, though the object for which they may be employed is confined to one only. Some of the bandages I shall have to describe may appear to be seldom required; this, however, is not the case, for, although some are more useful than others, circumstances may arise in which it will be found that they all may be brought into requisition, either the particular kind under consideration, or some modification of it.

Bandages may be required for the head, for many purposes: 1st, for keeping local applications on different parts of the scalp, such as dressings, poultices, &c.; 2nd, to make pressure to maintain the edges of a wound in contact, or to stop the hæmorrhage from a bleeding artery; 3rd, they may be required to fix the head in a certain position, where it is necessary to prevent motion in one direction more than another, as in cases of wounds of the throat, burns, disease of the cervical vertebræ, and in wry neck. In all these cases, the head may be fixed by bandages only, and by assisting in confining other apparatus to the head, neck, and shoulders. The following is a table of the most useful bandages required for the head, arranged in the order in which I shall describe them:—

Bandages for the Head.

Simple circular or forehead band.
T bandage, transverse or longitudinal
Simple cross, tying beneath the chin.
Triangular scarf or handkerchief.
Square scarf or handkerchief.
Single-headed roller.
Double-headed roller.
Four-tailed bandage.
Six-tailed bandage.
Looped bandage, for the temporal artery.
Bandage for fixing the head to one side.
Bandage for keeping the head backwards.
Bandage for keeping the head forwards.

FIG. 1.



Simple Circular, or Forehead Band.

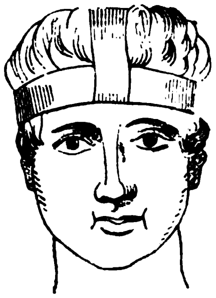
The circular bandage is very simple in its application, and may be required to keep dressings applied, to make pressure on wounds, or to keep a small poultice on some part of the forehead, temples, or occiput, where it is not wished that the head should be covered with a larger and more cumbersome kind of bandage.

Composition of Bandage.—A piece of calico or riband, a yard and a half or two yards in length, and an inch and a half or two inches in width, rolled up as a single roller.

Application.—You begin by unrolling the bandage for a few inches, and then place the free end of it on the side of the head over one of the ears, or in front, on the forehead, as points to start from. The reason of beginning in one of these situations rather than at the back of the head is, that they present a flat surface, whereas the occiput, being of a globular form, will not retain the first turn so evenly and firmly. Before beginning, you, of course, place your dressings in contact with the wound or ulcer, or, if it be that you wish to arrest hæmorrhage, you place your compress on the vessel; you then pass the bandage circularly round the head, making slight pressure if you merely wish to retain dressings or a poultice on the part, and firm pressure if your object is arrest of hæmorrhage. The points to have in view are, to make the bandage, anteriorly, lie flat on the forehead, as near to the eyebrows as possible, to prevent it slipping upwards on the forehead; and posteriorly, as near to the nape of the neck as possible, to prevent it slipping upwards on to the back of the head—either of which circumstances occurring, will of course cause the bandage to become loosened and displaced. You will more effectually guard against it slipping upwards on the posterior part by splitting the end of the bandage where it terminates at the back of the head, and pinning it in this situation, and then crossing the two ends, and bringing them forwards under the chin, and tying them there; or you will guard against the same evil anteriorly by making the end of the bandage terminate opposite the side of the head, anterior to the ears, by pinning it in this situation, and then splitting it as before, making one of the tails pass under the chin, and the other under the vortex, and fastening them on the opposite side; or you may pin the bandage on one side, and then turn the end down, bring it underneath the chin, and fasten it to the same point on the opposite side.

The circular bandage is also of use when the object is to keep a loose covering over the eye, either for the purpose of applying cold lotions, or for fastening a shade to, so as to protect the eye from the light; it is applied in the same manner, with the addition of pinning to it the rag to contain the lotion, or the shade which is to cover the eye. Your object will still be to prevent it slipping either upwards or downwards, which will be obtained by the means already described, by making one of the split ends pass over the head, and the other under the chin. (Fig. 1.)

FIG. 2.



T *Bandage for the Head.*

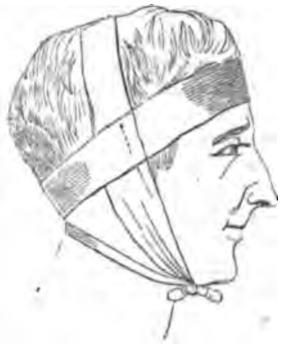
Composition and use.—This bandage consists of two portions, one a yard long, the other three yards long. The shorter portion is pinned or sewn at right angles to the centre of the longer portion; the two ends of the latter are then rolled up towards the centre, like a double-headed roller. This kind of bandage is useful in fixing dressings or small compresses on the top of the head, in wounds or diseases of the scalp, and to make pressure after the operation of trephining.

Application.—The central portion of the longer roller is placed on the forehead, just above the eyebrows, while the shorter or vertical portion is placed on the top of the head, and carried backwards below the occiput; the two rolled ends of the longer portion are then passed backwards to the nape of the neck, so as to overlap the end of the vertical portion hanging down behind; the two rolled ends are then made to cross one another, changing hands, and brought forwards over the forehead; the hanging end of the vertical portion is then brought up again over the vortex, till it lies on the forehead; it is then crossed again by the two ends of the other roller, which are then tied, and the vertical portion is pinned to them. (Fig. 2.)

Simple Cross, tying beneath the Chin.

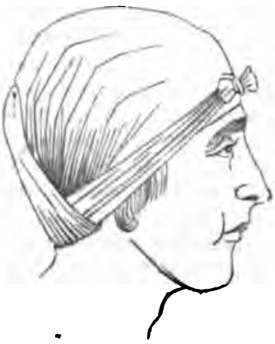
Composition and Use.—As its name implies, this bandage consists of pieces of roller, sewn or pinned at right angles in the centre, the length of each being about two yards, and the width about three inches. Its use is to keep poultices or dressings on the side of the head, or on the face, low down. The crucial form of the bandage keeps it in position, by preventing its slipping forwards or backwards.

Fig. 3.



Application.—The centre of the cross is placed on one of the temples, so that one portion of the bandage may be horizontal, and the other vertical. The two horizontal ones are then passed round the head—the one over the forehead, the other over the occiput; they are made to meet at the nape of the neck, after turning twice round, or only once, as may be wished, and then tied in a single knot, bringing the two ends of the bandage beneath the chin, and tying them with a common double bow. The vertical portions are passed over the head, transversely, and over or before the ear, as may be wished, and the two ends then tied beneath the chin also. (Fig. 3.)

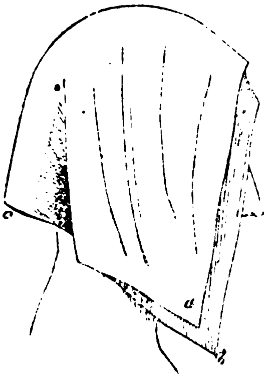
Fig. 4.



Of the Triangular Scarf or Handkerchief.

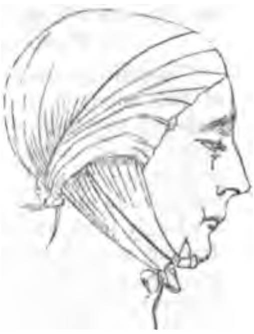
The next kind of bandage, or triangular scarf, as it is called, is simple, and is useful in keeping any application which is required to the scalp generally, such as dressings to diseases of the scalp, which occupy a large extent of surface, and when a large poultice is required for the head, as in cases of abscesses which form in the cellular tissue, beneath the scalp, after erysipelas. This kind of bandage passes generally over the whole head, and is well adapted for the above purpose. You take a piece of linen cloth, about the size of a common silk handkerchief, and a handkerchief itself is as good as anything. You then fold it diagonally across, so as to make it triangular in shape. You then place the centre of the base (which is of course the longest side of the three, owing to the manner in which it is folded) on the centre of the forehead, just above the eyebrows, placing the rest of the handkerchief on the top of the head, so that the middle corner or apex of the triangle shall fall on the back of the neck; you then take the two long ends and side corners, and pass them round to the nape of the neck, well below the occiput, so as to rest upon the portion already hanging down; you cross the two ends upon one another, bring them round by the side of the ears on to the forehead, and tie them there. You then smooth the whole of the handkerchief, by pulling upon the posterior end, and afterwards turn it up, and pin it to the central portion on the top of the head. The points to be attended to are, to see that the handkerchief grasps anteriorly the forehead, low down; and posteriorly, that it passes down well below the occiput. If these points be not attended to, it will slip up, and of course become loosened. (Fig. 4.)

Fig. 5.



Position of the scarf on the head before the ends are tied.

Fig. 6.



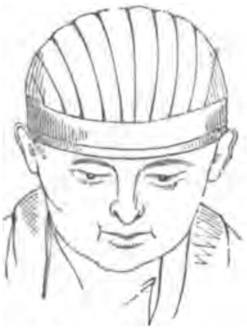
Shape of scarf after the ends are tied.

Of the Square Scarf or Handkerchief.

Composition and Use.—This bandage is rather oblong than square, and may be made with a common silk handkerchief or of a piece of linen cloth of the same size. It may be used for any case, where the whole of the head is required to be covered, either to confine some local application, or to produce warmth.

Application.—The handkerchief or linen cloth is to be folded in its long diameter, but not so as to make the edges meet, within three inches of one another, so that one may extend beyond the other; these two borders or edges are so placed as to lie upon the forehead, the central part of the handkerchief lying on the top of the head, and the sides hanging down over the ears. You will thus have four loose angles, two on each side hanging anteriorly, while the central part with the angles formed by the folding of the handkerchief hangs down behind. The folds and angles of the scarf are seen in the woodcut, fig. 5. You then take the two superior of the anterior corners marked *a*, and tie them under the chin. You then bring the two inferior ones, *b*, one on each side, forwards and upwards from beneath the two just tied, turn them back over their edges, and passing them behind the neck, tie them there. There is still the part of the scarf hanging down behind to be disposed of. This is done by bringing the loose hanging portions on either side downwards, and tying them beneath the chin also. You thus have the whole of the head covered, fitted with a cap, and if it be made to lie flat and even, it cannot slip off.

FIG. 7.



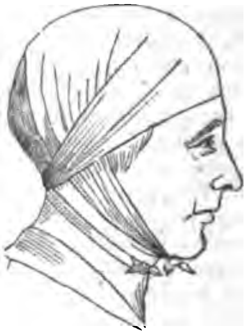
The Double-Headed Roller to Cover the Head Partially and Completely.

Composition and Use.—This bandage is made of two common single rollers, two inches wide, fastened together at one of their ends, so as to make, as its name implies, two heads or rolls, each rolled up in the same way, and leaving a central portion unrolled. When applied, it looks exceedingly neat, and is a very efficient bandage in dressing wounds of the scalp, and in keeping compresses applied over bleeding arteries. It is, however, by no means an easy bandage to put on the head, without a good deal of practice. *It is applied as follows:* You take the rollers one in either hand, and stand in front of the patient; the central portion of the bandage is then placed low down on the forehead, so as to rest flat, just above the eyebrows; the two rollers are then passed to the back of the head, low down under the occiput; and these two points—namely, making the bandage rest anteriorly low on the forehead, and posteriorly well underneath the occiput,—are the two on which the position of the bandage depends, for if they take hold higher up they are sure to slip, and then of course the whole bandage becomes loosened. Having brought the heads of the roller below the occiput, you loop one upon the other, by turning them in opposite directions, and at the same time changing hands. You then bring one of the heads up, (and it does not matter where, say the left hand one, for instance,) and bring it up over the top of the head, making the bandage lie quite flat, until it comes down low on the forehead. You then bring the right hand roller horizontally round the side of the head till it comes to the forehead, when you make it pass over the vertical portion, which you are holding with your left hand, so as to brace it down; the horizontal band is then carried round the opposite side of the head, till it comes to the occiput again. The vertical band, which is hanging down below the forehead is now turned up, and made to pass along the top of the head, slightly overlapping the central portion, to about one third of its width; it is carried onward till it comes to the occiput again, when it is made to loop round the other portion as was done at first—one portion is passed upwards again, along the top of the head, only on the other side of the middle portion just passed, making the third band, which is now placed on the top of the head, overlapping one another one-third of their width; this portion is then brought down to the forehead, until the horizontal portion is carried round again to brace it down, as was done with the first—this is repeated alternately on either side—namely, carrying one portion over the head; beginning in the centre, and then passing gradually down the side, till it reaches the ears, while the horizontal portion is continued to be carried round the head, bracing and fixing each turn of the vertical portion over the forehead and back of the head. When the whole of the bandage is expended, the head should be completely covered, by what may be termed layers of roller, partially overlapping one another. This description may appear complicated, which it must necessarily be, owing to the repetition so frequently of the same words, to apply to the different portions of the bandage, and the alteration of the relative position.

Of the Single-Headed Roller.

The composition of this roller is the same as the circular, which I described at first—that is to say, it consists of merely one roller. It is employed, however, to keep dressings on the top of the head, instead of the side or the forehead. This application is similar to the double-headed roller, only, instead of rolling both ends up, you undo a portion of the bandage, and let it hang loose, as you only wish to make a few turns over the top of the head, to cover it partially; you begin it in the same way, by passing one turn horizontally, and then looping the two round one another, either at the side or back of the head, and alternate the turns on the top of the head and round it, till the whole of the roller is exhausted. This is only a partial bandage, and is useful when the case is not important enough to require the use of the full double-headed roller.

FIG. 8.



The Four-Tailed Bandage.

Composition and Use.—This bandage is used when it is necessary to apply dressings to any particular part of the head, either on the forehead, vertex, or back part, and is placed in either of these situations, according to the nature of the case. It consists of a piece of linen cloth, from four to five or six inches in width, and long enough to pass from the top of the head backwards to the nape of the neck, and to cross forward so as to tie beneath the chin; it is then split at either end, so as to make four tails, leaving a central portion unsplit, of about a foot wide.

Application.—You place the central or unsplit portion on the part of the head where the dressings are applied; you then pass the two anterior portions backwards over the other tails or ends, and tie them at the back of the neck, below the occiput. The two posterior portions or tails are then brought downwards and forwards underneath the chin, and tied there; the central portion will then press evenly on the dressings, and confine them in position. If the dressings are to be applied on the forehead, you place the central portion anteriorly; if on the occiput, you place it posteriorly, and then tie the ends as before.

FIG. 9.

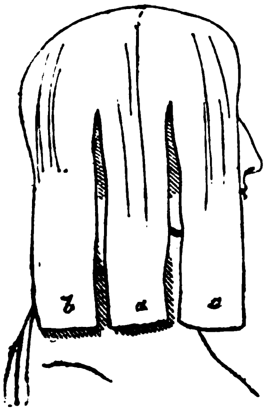
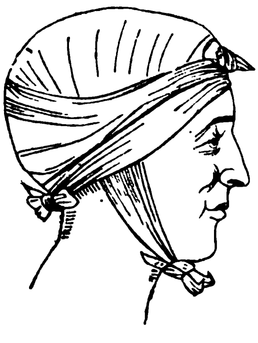


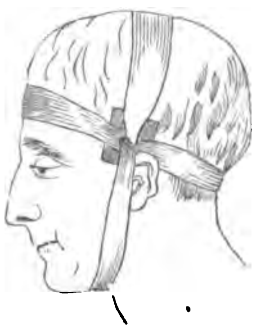
FIG. 10.



The Six-Tailed Bandage for the Head.

This bandage, like the last, is composed of a long piece of linen cloth, about a yard long, and eight inches wide; it is split into three tails at either end, so as to make six altogether. It is applied by placing the entire or unsplit portion on the top of the head, letting the three tails on either side hang down, (fig. 9.) You then tie the two centre tails beneath the chin, so as to pull upon the central or vertical portion of the bandage; you then pass the two anterior tails backwards, and tie them below the occiput, which will pull upon the anterior portion; and finally bring the two posterior tails forwards, so as to overlap the other two already tied, and fasten them on the forehead. The whole of the centre portion is now evenly stretched, presses equably on the upper surface of the head, and confines the dressings or poultices which may have been applied, (fig. 10.) This bandage has the advantage over the square or the triangular scarf, by making more particular local pressure, and it is not so hot or cumbersome. It is a useful bandage in sloughing wounds of the scalp, or applying dressings or compresses after the operation of trephining, &c.

FIG. 11.



The Looped or Noosed Bandage.

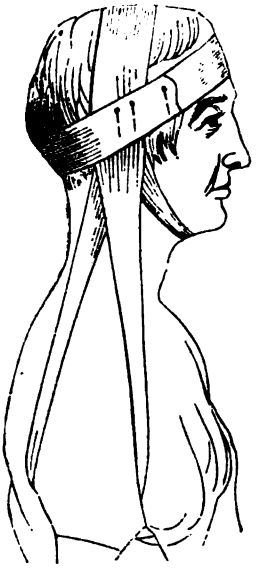
This one other bandage, which belongs properly to the head—namely, the looped bandage, for compressing the temporal artery, after wounds made by accident, or by the surgeon when necessary to bleed in this vessel. It consists of a firm compress, composed of five or six folds of lint, and of a double-headed roller. The roller is applied by taking the heads of it, one in either hand, and, placing the central portion of the bandage quite flat and even on the opposite side of the head to the wound, the two rollers are brought round, one over the forehead, the other under the occiput, until they meet over the compress, which is held by an assistant over the wounded vessel; the two heads of the bandage are then looped round one another, so as to make them turn in opposite directions: the one passing transversely across the head to the opposite temple, while the other passes under the lower jaw, and comes up to meet the other at the temple, also; they are then looped round one another again, and passed again in opposite directions, the one over the front of the head, and the other under the occiput, till they meet again over the wounded vessel on the compress; they are then looped again, in the same manner as before, and passed to the opposite side again; and this is done till the whole of the bandage is exhausted. (Fig. 11.)

Bandage for fixing the Head to one Side.

Composition and Use.—A double headed roller, each roll being three yards long, and three inches wide. The cases requiring its use are, wry neck, (if a proper apparatus cannot be obtained,) burns and wounds in the neck, where it is an object to keep the parts, in the former case from contracting, in the latter from separating.

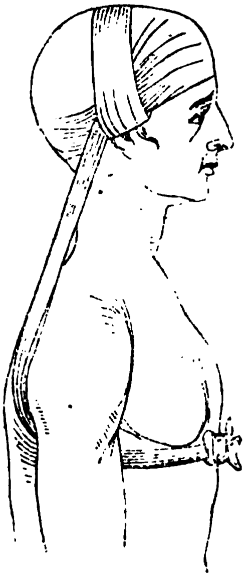
Application.—You take one of the heads of the roller in either hand, and place the central portion of the bandage on the temple, as low down as the ear will admit, and pass the two rollers round the head, one over the forehead, the other round the occiput, seeing that they lie quite flat and even; when they meet at the opposite temple, they are to be looped round each other, as described for making pressure over the temporal artery. The two rollers are then to be reversed, the one passing over the head, the other under the chin, till they meet at the side of the temple, where the bandage was begun. The turn of bandage which has crossed tranversely across the head is now to be carried downwards in front of the shoulder-joint, beneath the axilla, then up behind the joint to the side of the head again, where it is to be braced down by the portion of the bandage which has come up from the chin, by being once looped by it, and then being carried over the top of the head again, till met by the other portion, which is passed round the forehead; the same course may then be repeated, by passing the bandage again over the head, and under the axilla, as before; one time, however, is generally sufficient, if the bandage is properly fixed.

Fig. 12.



This bandage may be applied in another way. Take a double-headed roller, as before, and, instead of beginning on the head, begin by placing the centre of the bandage beneath the axilla, and then carry the two rollors upwards, one before the other, behind the joint, till they meet on the side of the head opposite the temple, (an assistant, of course, holding the head in the position in which it is wished to be kept,) the two bandages are then to be tied in a single running knot, the knot being opposite the temple; one portion of the bandage is then passed round the forehead, the other round the occiput, till they meet on the opposite temple, where they are looped round each other, when one end is passed over the head transversely, and made to turn beneath the slip-knot first formed, and then up by the side of the head, where it is looped once more round the end of the bandage coming up from the chin, and carried over the head to the opposite side, and finally braced down by the horizontal turn coming round the occiput. It is then to be further secured by pins, in two or three places. The description of the above bandage is necessarily complicated, but its application is very efficient, and can be understood by taking a little trouble. (Fig. 12.)

Fig. 13.

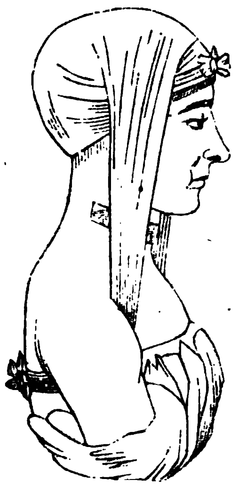


Bandage for keeping the Head backwards.

Composition and Use.—A piece of common calico, wide enough to extend from the margin of the eyebrows to the nape of the neck, and long enough to extend down behind the shoulders beneath the axilla, to tie in front of the chest; it is to be split into six tails, three on either side, leaving a central portion unsplit of about a foot in width. This bandage is useful to keep the head back in severe burns of the throat and upper part of the chest, or to prevent the head falling forwards in wounds of the back of the neck, and in some forms of spinal disease, where a more complete apparatus cannot be obtained.

Application.—You place the centre of the unsplit portion of the cloth on the top of the forehead, so that the anterior edge may lie just above the eyebrows, while the posterior is just below the occiput, the three tails on either side hanging down. The two anterior tails are to be left of their original length; but the middle and posterior are to be cut short, leaving enough for the former to tie on the top of the head, for the latter to tie on the forehead. The two long anterior tails are now to be passed backwards along the side of the head, down *behind* the shoulders, and under the axilla of either side, and then tied in front of the chest, the head, of course, being held by an assistant in the position in which it is wished to be kept. The two posterior tails are now pinned or tied at the side or forehead, while the middle ones are turned up from beneath the anterior ones, and passing round them are tied on the top of the head. This latter part of the bandage is important, by giving the long bands which fix the head backwards a greater purchase, and preventing them slipping over the ears. The woodcut (fig. 13) shows it well.

FIG. 14.



Bandage for keeping the Head forwards.

Composition and Use.—This is made in the same manner as the last one, of the same width and length, and split into six tails. Its use is the reverse—to keep the head forwards instead of backwards. It is required in wounds of the throat.

Application.—You place the unsplit portion of the bandage on the top of the head, the anterior edge above the eyebrows, the posterior beneath the occiput. The anterior and posterior tails are cut short to tie in front and at the back of the head, while the *middle* ones are kept of their original length. The anterior and posterior ones are then tied as described, and the middle tails are brought downwards, *before* the shoulders, passed beneath the axillæ, and then tied at the back. The point to observe is, that these central tails press more towards the front than the back of the head.

There is a method of fixing the head either forwards or backwards with the double-headed roller; the principle is the same as that described for fixing the head to one side for wry neck, &c., only making the bandage pass down beneath both axillæ instead of one only. The two methods I have just described, I think, will be found to be much more simple and more effectual.

New Domestic Vapour Bath.

Mr. Culverwell (the son of the druggist's fitting manufacturer) exhibited, at the last meeting of the Medical society of London, a newly invented domestic vapour bath, an ingenious apparatus, which possesses the advantages of being very portable and easy to manage. It consists of a receptacle for water, or any medicated substance, which is heated by a spirit-lamp; when hot, the vapour escapes from the sides of several little tubes, with flat, expanded tops, by means of which it is equally disseminated, instead of passing up in a single jet. There is also an elastic tube, which can be fixed to one of the flues in the top of the bath, the others being closed, by means of which vapour can be applied locally. The apparatus is neatly got up, and, we have no doubt, will answer well.

A Lecture

ON

SOME OF THE MORE IMPORTANT POINTS IN SURGERY.*

(Delivered at the Royal Westminster Ophthalmic Hospital, Dec. 6, 1850.)

BY G. J. GUTHRIE, ESQ., F.R.S.,*

Late President of the Royal College of Surgeons of England.

GENTLEMEN,—Messrs. Renny and McRae, the Superintending and Field Surgeons of the Indian army, during the campaign of 1848-49, have published a folio pamphlet at Calcutta, under the authority of the government, entitled "Reports of the Medical Arrangements, and on the Transactions of the Field Hospital of the Army of the Punjaub, 1848-49," from which, knowing the great interest I take in the wounds and injuries of arteries, Mr. Taylor, the surgeon of H.M. 80th Regiment, to whom I have drawn your attention in my lecture on Hospital Gangrene, has sent me, by the last mail, the following extract from the Report of the Field Hospital, by James McRae, Esq., late field surgeon. Total number of surgical cases admitted during the campaign, 504, of which 284 were Europeans. The medical staff attached to the Field Hospital entitled to medals, consisted of,—

1	Field surgeon.
1	Medical store-keeper.
13	Assistant-surgeons, all especially selected, and granted 260 rupees a month extra pay.
2	Uncovenanted physicians.
1	Sub-assistant-surgeon.
2	Apothecaries.
3	Stewards.
5	Assistant apothecaries.
10	Hospital apprentices.
6	Native doctors.
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Total 44 and 2 hospital serjeants.

"*Secondary Hæmorrhage and Ligature of Arteries.*—Only seven cases of this description came under our notice.

"1st. Secondary hæmorrhage from a lacerated gunshot wound of the thigh, in an European, laying open the femoral artery. The artery was tied by me in the usual place, in the upper third of the thigh; the case did well, and the man completely recovered.

"2nd. Secondary hæmorrhage from a large artery, supposed to be the profunda, from a gunshot wound of the thigh, in an European. Compression over the artery in the groin for twelve hours was employed with the apparatus to be hereafter described; when the apparatus was removed in the morning, the bleeding had ceased, and never returned. Amputation was contemplated in this case, but he did well without it.

"3rd. Secondary hæmorrhage recurring frequently from an amputation of the arm, high up, in an European. The axillary artery was tied by me, and the case did well.

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* These Lectures are desultory, appearing in THE LANCET as Mr. Guthrie delivers them.

"4th. Secondary hæmorrhage frequently recurring in a gunshot wound of the forearm, in an European, the ball having passed between the radius and ulna. The brachial artery was tied by me, and the case did well.

"5th. Secondary hæmorrhage from an amputation high up in the thigh, in an European, from ulceration of the femoral artery. In this case the stump was opened out, and a ligature applied by me to the artery, but the man did not do well. He had lost a great deal of blood, became hectic, an abscess formed in the stump, and he died, exhausted, three weeks after the amputation.

"6th. To illustrate a point of practice, I may here mention the case of Peer Ibrahim Khan, governor-general's agent at Bhawalpore, who came under my care at Ferozepore, a few days after my return from the Punjaub. I put a ligature on the axillary artery, on account of an extensive aneurism which formed in the arm from venesection by a native at the bend of the arm. The case did well, and the man completely recovered the use of his arm.

"Guthrie recommends, that almost in every instance of secondary hæmorrhage the stump or wound should be opened out, and both ends of the bleeding artery tied. Now, in the above cases, the ligature of the artery higher up in the limb was attended with complete success, and I am disposed to believe, that in the fatal case where the artery was secured by opening out the stump, that the man would have had a better chance of living had I tied the artery in the usual place, in the groin.

"The disturbance of the stump or wound is a great objection to Guthrie's plan; and in his mode of securing the artery there is also a much greater loss of blood, which, in certain cases, might be attended with fatal effects. However, his hints on the ligature of arteries are well worthy of the attention of the practical surgeon, and in a large proportion of cases we shall be able safely and satisfactorily to secure the artery at the point of lesion.

"7th. Ligature of the occipital artery, in an European, for secondary hæmorrhage caused by sabre wounds of the back of his head and neck. The case did well."

The apparatus alluded to in Case 2 is simply a piece of wood, like a round or a flat ruler, padded at one end—the round apparatus being for arteries of the limbs, the flat, for compression of the subclavian and arteries similarly situated. There is no detailed report of the cases alluded to above.

Commentary.—Mr. McRae has evidently referred to my opinions on these points, from memory, and has been consequently inexact. It being, however, important that his error should be corrected, and as the book is out of print, I transcribe the whole passage relating to hæmorrhage from stumps, from pages 302 & 303 of my "Treatise on Gun-Shot Wounds, Inflammation, Erysipelas, Mortification, Amputation, &c." 3rd Edition. 1827.

"In the irritable and sloughing state of stump that has been noticed, hæmorrhages frequently take place from the small branches, or from the main trunks of the arteries, in consequence of ulceration; and it is not always easy to discover the bleeding vessel, or when discovered, to secure it on the face of the stump; for, as the ulcerative process has not ceased, and the end of the artery which is to be secured is not sound, no healthy action can take place; the ligature very soon cuts its way through, or is thrown off, and the hæmorrhage returns as violently as before; or some other branch gives way, another ligature is required, which is equally uncertain, and under this succession of ligatures and hæmorrhages the patient dies. Surgeons have, in such cases, preferred cutting down upon the principal artery of the limb, in preference to performing another amputation, even when it is practicable; and they have frequently succeeded in restraining the hæmorrhage for a sufficient length of time to allow the stump to resume a more healthy action. This operation, although successful in many cases, will, under certain circumstances, fail, and amputation become ultimately necessary; but the same objection of want of success may be made to amputation; *and, on a due comparison of the whole of the attending circumstances, I recommend the operation of tying the artery, in most cases, in the first instance;* and if that prove unsuccessful, of resorting to amputation; but this practice is by no means to be followed indiscriminately. The artery is to be secured, with reference to the mode of operating as in aneurism; but the doctrines of this disease are not to be applied to it, because it is still a wounded vessel with an external opening, which truth I have more than once seen proved, to the discomfiture of the surgeon who relied upon them.

"In the thigh, the operation is less certain than in the arm, and especially if it is not the main artery that bleeds, for the branch from which the hæmorrhage proceeds may come from the profunda; and tying the artery in the groin, on such opinion, would be performing a serious operation, and one which would probably not succeed; for the anastomosing branches would restore the circulation in the stump in a short time, and again establish the bleeding. If it is the femoral artery that bleeds, and the ligature is applied high, it is very liable to a return of the hæmorrhage. To obviate these difficulties, the part from which the bleeding comes should be well studied, and the shortest distance from the stump carefully noted at which compression on the artery suppresses the bleeding; and at this spot the ligature should be applied, *provided it is not within the sphere of the inflammation of the stump.* In case the hæmorrhage should only be restrained by pressure above the origin of the profunda, and repeated attempts to secure the vessel on the surface of the stump had failed, I would prefer amputation, where the strength of the patient would bear it, to tying the artery in the groin, which I do not think would be successful; and the patient would be then in a less favourable state for amputation."

It will be observed that I do not allude, when referring to amputation, to cases of mere incidental hæmorrhage, but to those extensively diseased and sloughing stumps which occasionally prevail in unhealthy places, or in crowded hospitals, such as were seen sometimes in the Peninsula, and at Antwerp, and at Brussels after the battle of Waterloo.

The treatment by compression in Case 2, supposed to be of a wound of a branch of the profunda, merits my warmest commendation, as supporting the precepts upon which I have particularly insisted—viz., first, not to tie up a main trunk until you are sure that it supplies the branch which bleeds; and, secondly, to tie nothing that does not bleed; and in order to impress that firmly on your minds, I shall give you this Case 113 from my sixth Lecture p. 69, on Wounds and Injuries of Arteries.

“ John Wilson, of the 23rd regiment, was wounded at the battle of Salamanca, in 1812, by a musket ball, which entered immediately behind the trochanter major, passed downwards, forwards, and inwards, and came out on the inside of the anterior part of the thigh. The ball could not have injured the femoral artery, although it might readily have divided some branch of the profunda. Several days after the receipt of the injury, I saw this man sitting at night on his bed, which was on the floor, with his leg bent, and out of it, another holding a candle, and a third catching the blood which flowed from the wound, and which had half filled a large pewter basin. They seemed to think it would stop in due time, having bled once before during the afternoon. I placed a tourniquet with a thick pad as high as possible on the upper part of the thigh, and requested the officer on duty to loosen it in the course of an hour, which was done, and the bleeding did not recommence. The next day I placed the patient on the operation-table, removed the coagula from both openings, and tried to bring on the bleeding by pressure and by moving the limb; it would not, however, bleed. As there could be no other guide to the wounded artery, which was evidently a deep-seated one, I did not like to cut down into the thigh without it, and the man was replaced in bed, and a loose precautionary tourniquet applied. At night the wound bled smartly again, and the blood was evidently arterial. It was soon arrested by pressure. The next day I placed him on the operating-table again, but the artery would not bleed. This occurred a third time, and with the same result. The bleedings were, however, now almost immediately suppressed, whenever they took place, by the orderly who attended upon him; care having been taken to have a long thick pad always lying over the femoral artery, from and below Poupart's ligament, upon which he made pressure with his hand for a short time. The hæmorrhage at last ceased without further interference, and the man recovered.

“ This case was to me of considerable interest, more particularly because I had not decided in my own mind what operation should be adopted. I did not like to place a ligature on the femoral artery above the profunda, neither was I satisfied with the idea of tying the profunda an inch below its origin. It was on this account that I was desirous that the wound should bleed at the moment of operating, as my finger introduced into it might lead to the spot whence the blood flowed, whilst I might also be guided in forming my opinion, by the manner in, and place at which, pressure caused it to cease. I might have tied the profunda, but I certainly would not have tied the superficial femoral artery. My intention was, however, to ascertain, if possible, whether the wounded artery would be more easily got at by a transverse incision on the fore or back part of the thigh, and to proceed accordingly. In a similar case I should introduce my finger into the wound, and enlarge it transversely, continuing the incision until the opening was sufficiently large to see to the bottom of the wound, or the bleeding part. It is necessary to be attentive to the course of the great vessels and nerves, but not to the safety of muscular fibres, the division of which leads to no permanent injury. I am aware that as pressure on the main trunk led to the ultimate suppression of the hæmorrhage, it may be said that a ligature placed high up on the femoral artery would not only have done the same, but would have relieved the man from the anxiety necessarily dependent on the momentary fear of a recurrence of the hæmorrhage. There are two objections to this method of proceeding: the likelihood of mortification taking place, which I have sufficiently shown to be in similar cases a probable occurrence; and the possibility of the hæmorrhage being renewed through the anastomosing branches. The temporary suspension of the circulation by pressure does little or no harm, more particularly where the pad used is so thick as to cause it to fall principally on the artery, and only in a slight degree on the surrounding parts, which, by a little attention may be readily accomplished. I have succeeded in many instances of hæmorrhage from less important places by proceeding in this manner; but I have selected this particular case as an example to ground the proper line of practice upon, because it was of more importance than most of those which usually fall under the observation of the surgeon. It is not good practice to cut down upon an artery on the first occurrence of hæmorrhage, unless it be so severe or so well marked as to leave no doubt of its being from the main trunk of the vessel itself; nor is it then advisable to do so except the artery continue to bleed; for many a hæmorrhage, supposed to have taken place from the main trunk of an artery, has been permanently stopped by a moderately continued pressure exercised in the course of the vessel, and sometimes on the bleeding part itself, particularly if the blood be of a dark colour, indicating that it comes from the lower end of the vessel.

“ This case was printed with the preceding annotations on it, in 1830, in my work on the ‘ Diseases and Injuries of Arteries.' It shows that the practice I now inculcate is not that of this day, and I am particularly desirous that this fact should not be overlooked. It is my apology and my authority for condemning an opposite practice in my contemporaries.

"A painter could not have had a better subject for a picture illustrative of the miseries which follow a great battle, than some of the hospitals at Salamanca at one time presented. Conceive this poor man, late at night, in the midst of others, some more seriously injured than himself, calmly watching his blood—his life flowing away without hope of relief, one man holding a lighted candle in his hand, to look at it, and another a pewter wash-hand basin, to prevent its running over the floor, until life should be extinct. The unfortunate wretch next with a broken thigh; the ends lying nearly at right angles, for want of a proper splint to keep them straight, is praying for amputation or for death. The miserable being on the other side has lost his thigh; it has been amputated. The stump is shaking with spasms; it has shifted off the wisp of straw which supported it. He is holding it with both hands in an agony of despair. You may think I am exaggerating; I assure you I am not."

It is with regret I feel myself obliged to condemn the practice pursued in the first case—viz., of placing a ligature on the femoral artery at some distance from an open lacerated wound lower down in the thigh. It is simply reverting to the practice of 1810, the error and ill success of which I pointed out in 1811, and which are now acknowledged by almost all surgeons of eminence in France and England. When success follows a case so treated, *which it rarely does*, it is always an accidental circumstance, contrary to all principle, as I have so frequently shown, and supported only by the very unsubstantial reason, that "it succeeds because it does." No one has ever attempted to maintain it upon principle, and I have so often shown and proved the error, by the relation of numerous unsuccessful cases, that I feel it quite unnecessary now to do more than repeat the rule which should never be departed from—viz., "*that one ligature should be placed immediately above the wound in the artery, and a second below it, without which the sufferer is not for one instant safe from a return of the bleeding until the wound is healed.*"

As a whole, no one can feel greater satisfaction than I do, nor be under a greater obligation, to Mr. McRae, than I am, for the publication of his record. It is much to be desired that every officer would do the same; and I trust his labours will receive, from the high authorities of his service, the approbation and the reward they merit. Her Majesty's Government has lately bestowed on the medical officers of the three branches composing the public service of the country, a portion of the honours of the Order of the Bath, which cannot fail to have the best effect in aiding and encouraging them in the pursuit of practical and scientific knowledge, and in the efficient performance of their administrative duties. Some errors have been committed in their distribution, which I will take the liberty of mentioning, with the hope that it may meet the eyes of those who rule in such matters. The Companionships were given, in equal numbers to the Army, the Navy, and the India Company, on the ground, I have been given to understand, of thereby preventing any jealousy which might arise if it had been otherwise. It perhaps was well so to do in the first instance, although the opportunities these officers have had of distinguishing themselves professionally have, from the nature of the war, been different, whilst, from the length of time which has elapsed, a large proportion of the most distinguished in each branch are no more. The last war was essentially European and terrestrial. The medical department of the navy can scarcely produce, I am informed, two more men of the required rank, who have had the opportunity afforded them of meriting the honour. The army can produce more than a dozen, and some of them men who have rendered very important services. Those upon whom the honour has been bestowed are all past sixty years of age, many of them are nearer eighty; and all are of the inspectorial rank; yet, in consequence of the equalization of numbers to each branch of the service, many of that rank have been omitted, who feel severely the exclusion. Among these is one, almost an octogenarian, whose breast is bent with the labours, and I might add, with the medals gained for the many battles in which he bore his part. Two others—Drs. Mahoney and Roe—were assistant-surgeons, serving under me, I may say, if the alliteration can be pardoned, from Talavera to Toulouse. I have sent them repeatedly into the trenches at Cuidad Roderigo and Bajados, for twenty-four hours at a time, when their brother officers, more really soldiers, remained but eight. They have been oftener under fire, and necessarily so, than half the general officers of the army; and when these little inconveniences were over, they have laboured for hours, and days and nights, even incessantly, with bended knees and backs, (such bends that none but young knees and backs could bear,) stooping over the injured and the dying on the bare ground, and whose only hope of safety rested in their devotion to them—a devotion which deserves from me the warmest testimony. They, with Dr. Franklin, then also an assistant-surgeon, now an inspector-general, lately returned from India, (all that time has spared,) felt, that under the circumstances in which they were placed, they could not consider themselves; and it is gratifying to me, when I now number them amongst my warmest friends, to reflect that I never spared them, and that in those days they often said, "He will certainly kill us, if he does not kill himself." I owe to them much of the information I have been enabled to lay before you; and I can only hope, that if it shall not be the pleasure of those in authority to confer upon them the honour they have so well deserved, they may live in the literature of their profession, if I cannot say, with Horace, *perennius ære*, at least *perennius* than the record of the ribband they have failed to obtain, but which, I trust, will yet be accorded to them.

There is another point, of more importance to the public. When young field officers of the army distinguish themselves in the execution of their duties, they are sometimes rewarded by the Companionship of the Bath, of which of late there have been several instances; offering an example, which, if followed in the medical department, as a reward for scientific research, would give the greatest encouragement to all, from the youngest upwards; and would have the happiest effect on the welfare of the unfortunate persons who may be committed to their care, by the promotion of scientific acquirements.

The medical officers of the public service are thankful and grateful for what has been done for them, however tardily and scantily bestowed; and Her Majesty's Government may be satisfied they have rendered the public a great service in the generous rivalry they will excite amongst them. A little more liberality will obtain, in a few years, a corps of officers unrivalled in any portion of the civilized world.

Lectures

ON THE

PHILOSOPHY OF MEDICINE,

DELIVERED IN THE

Lecture-room of the Literary and Philosophical Society, Newcastle-on-Tyne,

BY ROBERT M. GLOVER, M.D.

LECTURE II.

The subject continued.—Generalization and general laws in medicine: mode of arriving at them; observation; value of all means of assisting it. The microscope and chemical analysis; experiments on animals. Statistics, and the calculus of probabilities.

IN my first lecture, after some introductory remarks, I endeavoured to show the investigation of natural phenomena to be necessarily a search after *causes*. I opposed the doctrine of causation propounded by Dr. Thomas Brown, and proved that the views which I expressed were similar to those of Lord Bacon. At the same time, it was explained how the search after *causes* leads to a series of physical laws. We begin an investigation, led to it by an idea of causation; and, however far we push the inquiry, such an idea still remains before us. This doctrine of causation, it was also shown, has an intimate connexion with the theory of induction, as practised in the natural sciences. I then entered upon the subject of induction, and the place of medicine among the inductive sciences; and concluded by a summary of the history of science, intended to confirm the truth of the views expressed.

A great distinction must be drawn between the proper recognition of these ideas of causation, and the use made of them in ancient and modern times, by those who have laid down hypothetically theories respecting causes, and endeavoured to demonstrate them by an application to facts. Thus, in the doctrine of phlogiston, to which I referred, it was supposed by Becher and Stahl that all combustible bodies are compounds of a base with phlogiston; and combustion is nothing else but the more or less gradual escape of this phlogiston. When phosphorus, for instance, is burned, it leaves behind it an acid substance, which may be collected, if proper precautions are taken. This was the phosphorus *minus* its phlogiston; but if we took the result, and heated it with charcoal, the phosphoric acid again became phosphorus, *because it recovered its phlogiston from the charcoal.* For thirty or forty years, the great aim of chemists was to support and extend this plausible theory. But one important element in the investigation of the facts had been overlooked. At length, bodies were found to become heavier, from the supposed loss of this phlogiston. Now, even if phlogiston were imponderable, the loss of it could not increase weight, and shortly the discoveries of Lavoisier and others exploded for ever this once dominant doctrine.

In medicine, many theories of a similar kind might be referred to. I may instance the general doctrines of inflammation which have prevailed—the views of Boerhaave, Hoffman, and Cullen. The mode in which Marshall Hall has made use of those ideas of causation is an example of the purpose to which they may be philosophically put, and is in true accordance with the spirit of the Baconian philosophy. Thus, although he finds it necessary to speak of a *vis nervosa*, he nowhere allows any notion with regard to the nature of this force to seduce him into deducing from it laws involving facts. All his physiological and pathological laws relating to the functions and derangements of the nervous system are framed inductively.

I considered that the real, constant, and permanent obstacle to the progress of medical science was to be found in idiosyncrasy, summing up in that word all the differences produced in mankind by age, sex, habit, external conditions, as well as peculiarity of constitution. It will be found, from a note in the first page of Dr. Cogswell's work on Iodine, that I had maintained the same view in a paper read before the Royal Medical Society of Edinburgh, in 1837. I find this comprehensive use of the term "idiosyncrasy" justified by Feuchtersleben. He is writing of the elements of psychophysical character, and, after speaking of original character, capacity or constitution, habit, education, age, sex, &c., he says:—"But all the abovementioned differences still admit of further concentration into one point. This last internal cause of the individual difference of men may be simply designated by the word idiosyncrasy, which, according to the etymology, means the last individual result of the combination and mixture of all the hitherto enumerated particulars, and thus signifies the peculiar character of a man, though we usually understand by it only special particulars."*

The effect of idiosyncrasy is to render many of the instances, both in pathology and therapeutics, so peculiar, that they either cannot be generalized at all, or only approximatively. This is well seen in the great difficulty which has always been found in framing nosological genera or classifying remedies. It is quite evident that this difficulty is much greater in medicine than in such sciences as natural history. Thus the cases met with in practice are often of such a kind as renders it very difficult for us to class them under any of the pure types of disease which nosological systems present to us. And, of course, if some instances of vaguely defined genera are taken as examples of the rest, it can hardly be expected that inferences formed from the examination of a few can be applied to the others, except on an argument of probability founded on an analogy more or less exact. An example from physical science may serve to show how idiosyncrasy may disturb even well-established medical laws.

No law, then, in natural science would seem better established than that which connects the increase of heat in a substance with expansion, and its decrease with contraction. We can satisfy ourselves of the fact of bodies not merely expanding on being heated, but expanding, as a general rule, in a certain relation to the amount of heat which they may receive. This law is founded on great prerogative facts, such as would justify us, according to the rules laid down by Bacon, in framing, from a comparatively few instances, a law affecting an illimitable number which have not undergone examination. Yet there are at least two remarkable exceptions. Water, at a temperature a little above 39° Fahrenheit, on being cooled, expands down to the freezing point, and, *vice versâ*, contracts on being heated from the freezing point to 39°; yet, so firm is our conviction in the uniform order of nature, we believe, that even in this case, the tendency of heat is to expand, but we ascribe the exception to the existence of some countervailing force. Thus, the circumstance has been accounted for by supposing 39° to be the lowest point at which water is actually fluid. Below that, an incipient crystallization takes place, which goes on increasing until the freezing point is reached. Now, I think this a good illustration of what we may expect from idiosyncrasy in the sense in which I use the term in medicine. And, indeed, new instances are being continually created, so that if we had mastered the difficulties which the idiosyncrasies of the present generation occasion, those of the next would present fresh sources of error.

The more fundamental and essential to the constitution of man are the organs, functions, &c., to which a law refers, the further we get beyond the influence of this disturbing cause; and I instance, again, such researches as those of Marshall Hall, on the connexion between certain symptoms and derangements of important organs of the nervous system, as affording generalizations, which, being arrived at, (however difficult their attainment may be,) resemble the laws of physical science.

I would divide generalizations in medicine, then, into two classes—

1 Laws founded on essential conditions, which belong, as it were, to the nature of man, and approach more or less in certainty to generalizations in physics and in physiology.

2. Another kind of laws, referring to non-essential or variable conditions, only applicable to non-examined instances, on the ground of an analogy, more or less strong, of whose comparative value only the sagacity of the investigator can judge, and whose universal application only rests on a probable ground. Many therapeutic laws especially belong to the latter class.

But whatever be the difficulty of generalizing in medicine, when laws are once framed we must act on them, whether they rest upon what may be termed physical certainty or only upon probable grounds. This necessity is as great in medicine as in other sciences. As Andral observes, our intelligence will always feel the necessity of collecting the facts which it observes into general laws, and by them, "the past is formularized, the present rendered fertile, and the future prepared." And when we proceed on probability, the chances of error, as we shall see, frequently admit of being estimated. Hypotheses are not to be condemned, if kept in their right place. "Hypotheses," says Locke, "if they are well made, are at least great helps to the memory, and often direct us to new discoveries. But my meaning is, that we should *not take up any one too hastily*, which the mind that would always penetrate into the causes of things, and have principles to rest on, is very apt to do. . . . . And at least that the name of principles deceive us not, nor impose on us, by making us receive that for an unquestionable truth which is really, at best, but a very doubtful conjecture."

I recollect being very much struck, when attending the lectures of Andral, in 1837, with the mode in which that great man delivered a kind of transcendental theory of disease. He extended the doctrine of the unity of organization to disease, and conjectured that disease might be a kind of monstrosity, a falling back of man from defect of vitality to a lower stage of organization, through which he had previously passed. This view he supported by many ingenious arguments, chiefly derived from striking analogies; but he always took care to warn his pupils that he was merely speculating.

The first requisite in medicine is of course to observe, and to observe with attention and intelligence. It is not the number of facts, nor even their value always, which constitutes the amount of benefit derived by the observer himself, or capable of being communicated by him to others. The greatest—the most important—element in the matter, is the mind itself, which is employed in the investigation. The educated and trained intelligence has the same advantage over one which is hasty, prejudiced, or unformed, as a Roman soldier had, in battle, over a naked barbarian. Patience, perseverance, care, and judgment, are necessary; and in drawing inferences, in grouping facts according to their more important qualities, or those most subservient to the purpose in view, nothing can take the place of sagacity and genius.

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* Feuchtersleben's Medical Psychology, Ed. Sydenham Society.

The time has long gone by, when it was requisite to defend the use of such mechanical aids as the stethoscope; but as every innovation has its period of opposition to encounter, the recent applications of chemical and microscopical analysis have still the lingering remains of a somewhat similar feeling against them. A philosopher remarked that our science consisted chiefly in our having eyes and hands,—meaning to imply, that our senses, if sufficiently acute, could reduce science to the level of ordinary knowledge, such as we receive from their unassisted use. "*Numero, mensura, et pondere, deus fecit mundum.*"

Percussion and auscultation, measurement and weighing, the use of scientific instruments, thermometers and hydrometers, spirometers, and every legitimate scientific invention that can be brought to bear, furnish the means by which medicine is to be advanced and rendered a more exact science. Similar means are required in pathology and therapeutics. The labours of ages have prepared the way for more refined researches: the old morbid anatomy, raised by immense labour, affords a basis for the application of an analysis which goes thousands of times further into nature than the mere use of our unassisted senses; but the paucity of the results obtained is sometimes objected to. I contend that, for the time which has elapsed, the progress of medicine under these new means of observation has been surprisingly rapid.

For example: how materially have our ideas been enlightened concerning the nature of scrofulous and cancerous, and ordinary inflammatory affections. At a time not very remote, there was great confusion regarding the relations between these great classes of disease, so that scrofula and cancer even were often confounded. We now know these diseases to be as wide apart as possible. In scrofula, a product is eliminated deficient in the means of organization, and which remains, like a foreign body, a source of irritation in the tissues where it is deposited. In cancer, on the other hand, there is excess of organization, and the formation preys like a parasite too powerful for the system. In normal inflammation we have the middle term, as it were, of the series. The chemical and microscopical examination of the blood, secretions, &c., in these diseases, have shed a flood of light on their real nature; and the treatment, based on rational views, is rapidly assuming a character of precision which before it absolutely wanted.

It appears evident that the circumstance of a patient recovering under the administration of a remedy is much more valuable when we can see a rational connexion between the treatment and the result.

Very often the use of reasoning derived from physics and chemistry in medicine has been objected to, on the ground of the body not being a physical or chemical machine, but vital. In fact, the phenomena of life, as manifested, are chemical or mechanical, no matter how produced. No matter how the retina sees, the eye is an optical apparatus, and it is by optical laws that we must investigate vision. No matter how the heart beats, the circulation of the blood is mechanical. The secretion of the saliva or urine is a chemical fact. Because in the early periods of chemistry and mechanics, abortive attempts were made to apply ill understood or imperfect theories to medicine, does it follow that the matured state of these sciences is not capable of conferring immense benefit? The phenomena of life, except those connected with the soul itself, are for the most part physical, although not brought about by the ordinary chemical and mechanical forces, but by the mysterious influence of vitality.

We are only beginning to derive promise of the great benefit which chemical research, in particular, is likely to confer upon therapeutics. A great law has been recently shown to exist, whereby the chemical properties of bodies are proved to bear a constant relation to their physiological and medicinal actions; and in compound bodies, where one of the elements preponderates chemically, the physiological properties of the same element will have a similar preponderance in the conjoined effect. Exceptions to this law, which were supposed to exist, have been removed or explained. The recent researches of Golding Bird and others, on the effeect of diuretics on the various principles of the urine, furnish a proof of what we may expect from the further application of chemistry to therapeutics. Formerly, a diuretic, which merely increased the quantity of water in the urine, and one which actually promoted the excretion of the solid contents of that important fluid, would have been held in much the same value.

Considerable prejudice has existed, and continues to exist, with regard to the propriety and utility of experiments on the inferior animals. The moral question would seem easily disposed of, except in the eyes of one who holds it altogether unlawful to take life, even for purposes of self preservation. Surely if we may kill animals for food, we may also put them to death in order to promote a science absolutely necessary for the preservation of human health and life. The only possible doubt which remains, depends on the real utility of such experiments.

Such experiments afford us the very means which we want in medicine; we cannot experiment except *in corpore vili;* and it is rare that disease or accident presents us with results similar to those of experiment. M. Bouillaud remarks—"Experiments on living animals are very fit to clear up a multitude of medical questions which the simple observation of disease, such as nature offers us, has left in a state of obscurity more or less profound." Such men as Marshall Hall, Christison, and Orfila, never doubted the utility of experiments on animals; and the present state of toxicology is alone a sufficient proof of their value. Some years ago, a controversy on this subject was carried on in the *Medical Gazette;* and one of the disputants, who took the contrary side of this question, laid great stress on the extreme reluctance of Sir Charles Bell to undertake such experiments. But Sir Charles Bell was compelled to experiment in order to prove his views, and his great aversion to the task only proves that men in such cases are obliged to sacrifice their feelings to a sense of duty.

No doubt many unnecessary cruelties have been perpetrated in the name of science on the inferior creation; but this is no argument against the legitimate use of the mode of investigation of which we are speaking. Certainly there is nothing to induce any one of proper feeling to enter upon researches, involving such extreme labour, and attended with such disgusting details, unless it be an ardent desire for the advancement of medicine.

The great author of the "Novum Organum" has expressed his opinion on this point. In his work called the "Nova Atlantis," which, under the fanciful title of Solomon's House, contains a description of a community supposed to be entirely devoted to the cultivation of science,—he makes an inhabitant of his Utopia say—"We have also parks and enclosures of all sorts of beasts and birds, which we use, not only for view or rareness, but likewise for dissections and tryals, that thereby we may take light what may be wrought upon the body of man. . . . . We try, also, all poysons, and other medicines upon them, as well of chirurgery as of physick."

Some vague objections are occasionally made against trusting to the results of vivisections. For instance, the conclusions drawn by Flourens from his experiments on the brains of animals have been disputed, on the ground of the torture to which the animals were subjected. But if phrenologists place the seat of amativeness in the cerebellum, and animals which have lost their cerebella are found to retain amativeness, but to have lost the power of regulating and co-ordinating motion, this surely is an *experimentum crucis*, and not all the sophistry in the world can weaken its effect. Again, the differences between the lower animals and man have been much insisted upon. The analogy, however, is sufficiently great; the fundamental resemblance in structure and function is sufficiently strong to do away with the force of this objection. No doubt improper conclusions may be drawn from experiments on animals, as from everything else; but their value when properly conducted is very great: under good management they afford almost the only means of introducing prerogative facts into medicine.

Very little doubt can exist of the value of numerical results in themselves, and possibly there never would have been any opposition to the introduction of numerical methods into medicine, had not many of their advocates laid too great stress on them, to the exclusion of rational modes of investigation. A few years ago in France, what was called the numerical method was introduced with a flourish of trumpets, as if before that time men had not known how to count, and as if a new era of medicine had taken place. Many of the advocates of the numerical method, in their love of statistics, seemed to lose sight of the relative value of facts. The great Morgagni said, "*Non enumerandæ sed perpendendæ sunt observationes*"—an aphorism which a judicious exponent of numerical methods would alter into *non enumerandæ solum sed etiam perpendendæ sunt observationes.*"

As in a court of justice the evidence of one witness, from his character, sagacity and judgment may outweigh numerous testimonies, so, in accordance with the precepts of the Baconian philosophy, in medicine a single fact may be of more consequence than many opposing ones. Statisticians have very often overlooked this. It is very easy to count, but very difficult to estimate the relative value of facts. An unfortunate example of the erroneous inferences which might be drawn from statistical inquiries, conducted even by their most eminent advocates, was offered at a very early period of the career of the so-called numerical school. Thus M. Louis, from 107 cases of pneumonia, 44 of erysipelas of the face, and 23 of angina of the throat, came to a conclusion which expressed a doubt of the utility of bleeding in inflammatory affections. But the experience of ages, which this statistical argument seemed to hold so cheap, was not so easily disposed of. Statistics have little or no value unless great attention is paid to the character of the facts admitted into the numerical calculation. Suppose, for instance, I wished to ascertain the effects of diet and regimen upon the prevalence of scrofula, and I were to write to the medical men connected with the poor-law unions for information as to the number of cases in each workhouse. Unless I took pains to explain what I understood, and what they were to understand by scrofula, I should to a certainty have many heterogeneous cases returned as scrofulous. Mr. Phillips, in his valuable work on Scrofula, gives the result of a statistical inquiry of this kind, which he made with the view of throwing light on the hereditary influence of scrofula. But this investigation stops short, after taking in merely the fathers and mothers of the scrofulous subjects. Now, the scrofulous diathesis may appear in some members of a family, and not in others. The parents of a scrofulous person may appear without taint, when the uncles or aunts may exhibit evidence of the disease. Mr. Phillips has in this way accumulated a statistical table, including 2023 families, which looks very formidable, when 100 families carefully and thoroughly examined might have furnished more valuable results. It is therefore of immense importance in statistics—first, that the facts should be comparable; second, that their real weight should be kept in view. Further, since in statistics the numerical element is so important, the facts should be as numerous as possible.

A formal attempt to systematize the objections to the use of statistics and the calculus of probabilities in medicine has been made by M. Risueno d'Amador.* Before entering on the application of the calculus, I shall take note of some of his objections.

1. The inflexible operations of the calculus are substituted for those of the intellect. But I have already laid great stress upon the supremacy, as it were, of rationality.

2. He maintains the calculus itself to be imperfect; and to show, he says, how little it weighs even with its advocates, he quotes as follows from Laplace:—"By making the most ancient epoch of time ascend to 5000 years, or 1,826,213 days, and the sun having risen constantly during the interval, at each revolution of the twenty-four hours, there is 1,826,213 to wager against one, that he will rise to-morrow. But this number is incomparably stronger for him who knows, by the totality of the phenomena, the regulating principle of the days and seasons, that nothing at present can arrest its course." Another principle, then, says M. Amador, is admitted even by Laplace himself as of superior weight to mere numbers, the rational conviction of the mind in the stability of nature.

3. He justly lays great stress upon the frequent insignificance of numbers, as regards the real value of facts or opinions supported by their evidence. This part of his work is an admirable exposition of the abuses to which statistical investigations are liable. I cordially agree with the following observations:—"Without despising them, let us always distrust majorities; during centuries they supported Ptolemy against Copernicus, the Inquisition against Galileo, the tourbillons of Descartes against the Newtonian Philosophy. The majority has never failed to support errors in medicine, all the abuses of power, and never found fault with any of the prejudices which obscure the reason, or interfere with the moral sense of nations. If the great Sydenham had allowed himself to be guided by the method of figures," (solely!) "he would not have left to posterity those admirable and faithful descriptions of the varieties and shades of disease which constitute his principal glory. Guided by the success of a year, he would have applied to another epidemic, of continued fever, dysentery, &c., externally similar, the treatment which had succeeded numerically in a preceding one; but then he would not have become a pupil in the case of each succeeding epidemic, and we should not have admired in him those sagacious manipulations, those difficult inductions, those skilful and delicate analyses, by which he succeeded in diagnosing the nature of the case, and, in consequence, its treatment.

This, also, is another of the objections levelled at the *exclusive* use of numbers; and, in one word, we may sum up the arguments of M. Amador, and others of the same kind. They have a certain speciousness, and apply to the abuse, not to the proper use, of numerical methods.

The calculus of probabilities does not give an absolute, but a relative value to the result of our observations. When, from the occurence of a certain number of events, we deduce an argument of probability in favor of another event taking place, even if we are disappointed, it does not follow that we were wrong—the chance was so. The difference between mere statistics and the calculus of probabilities consists chiefly in this. Statistics may show us how far the probability of an event is greater or less from the facts observed, but the doctrine of probabilities informs us within what limits of error we are engaged. It shows how far we may rely upon numbers. Without this important supplement, statistics would be of very little value.

In my next lecture I shall give some illustrations of the working of the calculus.

# NOTES
FROM
A COURSE OF LECTURES
Delivered at St. Thomas's Hospital,

BY GILBERT MACKMURDO, ESQ., F.R.S.,

Surgeon to that Hospital,
and to the Royal London Ophthalmic Hospital.

Reported by his Son.

LECTURE XIII.

(*Continued from December No., 1850.*)

Cataract.

GENTLEMEN,—We have this evening to enter on the interesting subject of Cataract. I assume that you are by this time acquainted with the anatomy of the eye, and consequently of the lens and its capsule. The lens itself is found to vary much in size, and in the degrees of convexity its two surfaces present; its consistence, also, generally, is found to increase towards its centre, and its concentric laminæ gradually exhibit a greater degree of density as they are thus examined, whilst the absolute external surface of a healthy lens in a young person is so exceedingly soft as to appear almost fluid.

By the term cataract we generally understand an opacity of the crystalline lens or its capsule; but we also find, in works on the subject, a Morgagnian cataract mentioned. This is described as an opaque condition of the fluid called the liquor Morgagni, said to exist within the capsule and around the lens, but I believe it only exists in diseased conditions of the eye. A cataract is also said to be true or false. By the former term we mean to express, that the opacity exists in the capsule itself, or within it, that is, in the lens; and by the latter term, that the opacity is external to the capsule; and this may consist of various kinds, to be described presently. We also speak of it in relation to its consistence, as being hard or soft, or fluid, cheesy, flocculent, milky, or of a spermaceti consistence, or as being radiated. With regard to its colour, we speak of greyish, amber, or mahogany-coloured cataracts, and sometimes these last have been called black. We also divide them, according to their causes or periods of formation, into idiopathic, or traumatic, secondary traumatic, and congenital cataracts, incipient or complete, mature or immature. Many of these divisions are of little or no practical use, but some of the peculiar characters guide us in our treatment and operations. In all there is an opacity behind the iris, obstructing more or less the passage of the rays of light toward the retina. When it exists uncomplicated with an amaurotic affection, it does not destroy all vision, but merely obstructs it to a greater or less degree; it may be slow or rapid in its progress; more generally it is the former. A few months only sometimes pass away during its formation, whilst in other cases many years elapse before the cataract is complete, when there is no very exciting cause present; on the other hand, I have known a traumatic cataract become fully formed and quite opaque within four or five hours, or less time, after an accident has occurred, such as a blow on the globe of the eye with a stone, stick, or whip, and especially in cases where the cornea has been ruptured by a foreign body, or even by concussion of the head from accidents.

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* Mémoire sur le Calcul des Probabilités Appliqué à la Médécine, 1837.

The more common colour of a cataract is that of a bluish white; this generally indicates that it is soft or partially fluid, at other times we observe it more decidedly dark, and it may, as I before mentioned, appear even of an amber or brownish hue, which denotes a firmer consistence. In cases where decided glaucoma exists, we see a greenish pupil, and even in incipient cataract we also sometimes observe a greenish hue, but in the latter instance the greenish opacity is nearer to the front of the eye; and if we look sideways at the pupil, we see the greenish tint in the former instance; but if glaucoma existed, we should, during such an examination, lose sight of the green colour, because it is more deeply and posteriorly situated. We ought to endeavour to diagnose accurately between an incipient cataract and incipient amaurosis; for in the latter case, if we allow our patients to continue thus affected, without undergoing a proper plan of treatment, we shall let the only opportunity of arresting the mischief pass by, whereas, in incipient cataract, we have only to wait patiently and watch the case, merely treating it from time to time according to any symptoms that may demand our assistance. In amaurosis, as contrasted with cataract, the eye does not generally move so freely and naturally as when cataract alone exists. The iris is then generally very sluggish, if not totally inactive. (There are, however, some occasional and extraordinary exceptions to this rule.) When patients first suffer from cataract, provided it is of a slow progress, they complain of having a mist before their eyes, and they liken it to their muslin, or a fog, or they say it appears as if they looked through a dirty window. They will enter our room with a contracted brow, and a cautious step, and will endeavour to avoid the light.

In lenticular cataract, the opacity very frequently commences at the centre, extending gradually outwards, so that sometimes the patients see objects laterally best, particularly if belladonna is regularly applied, for they then see better through the comparatively transparent circumference of the lens, as well as through the interspace between the margin of the pupil and lens.

Patients will see best in the dark corners of their rooms, or at twilight, or with their backs turned towards the window, as their pupils will then become dilated. Now, this is in exact opposition to the condition of the amaurotic patients, for they see generally best in the greater light; also they, when looking at a candle, complain that "there is a halo around the flame; or that there are diverging rays of light annoying them, or even various bright colours;" but the cataractous persons, provided their retina are in a healthy state, only see the flame of the candle, as if it were enveloped in a cloud, more or less dense. We also very generally hear of complaints of headach, eyeach, giddiness, &c., from the amaurotic patients, and not from those who suffer only from incipient cataract. When the mist complained of is only increasing slowly in density, the patients assist themselves by wearing shades, or by shadowing their eyes with their hands. I ought to have mentioned, that we always think it right to dilate the pupil by belladonna on our first examination of the case. Very often they suffer from muscæ, during the formation of cataract, as under amaurosis. In some few cases, these spots entirely disappear at a subsequent period, and we do not hear of them after the cataract has been removed; but, in many instances, we try in vain to rid the patient of their presence. We attribute them to disease of the choroid and retina. Some authorities ascribe their presence to the action going on in the lens. Others entirely deny that there is any such connexion. I think it is impossible to speak with certainty on the question, but I decidedly incline to the opinion, that, although co-existent, they are generally independent of the formation of cataract.

It has, however, been mentioned as a circumstance well calculated to demonstrate the uncertainty we labour under, in endeavouring to distinguish between amaurosis and cataract, that amaurotic persons will, in some instances, complain of the sensation as if a piece of muslin or gauze were placed before them, and that this mistiness gradually increases, as it does in cataract, until they eventually become quite blind; which termination does not occur in cataract alone.

Also, in some cases the amaurotic patients will see objects best sideways, or even in a diminished light, the excess of light distressing them. Thus do we find that some of the characteristic points of cataract are occasionally present in amaurotic patients; and we must therefore take increased pains to avoid any error in our diagnosis.

I have seen a very slight dulness of the lens mistaken for incipient amaurosis, and mercury has been exhibited very freely, but uselessly;

and I have also once or twice watched cases where cataract has been very slowly progressing, whilst other authorities in ophthalmic surgery have not recognised the existence of cataract for a considerable time. Thus are we all liable to error.

In incipient amaurosis we seldom see the pupil of a jet-black colour; it is frequently rather of a palish green; and Dr. Mackenzie states that from frequent dissection of glaucomatous eyes, in the incipient form of that disease, he is convinced that the greenish colour is dependent on the yellowness of the central part of the lens, and not upon the opacity of the vitreous humour. He also lays great stress upon the catoptric mode of examining the eye, as recommended by Professor Sanson. [This mode of examination was now described by Mr. Mackmurdo.] We ought always to examine well the state of the globe of cataractous patients, and ascertain whether the sclerotic is of a clear and healthy-looking white colour, or of a dirty yellow; whether the globe is soft or flaccid, for then the vitreous humor has become diseased, and is deficient in quantity; or if, on the other hand, the eye feels very hard, we assume that the vitreous humour is also diseased, and that it exists in excess, but in a fluid condition. The crystalline lens presents a different consistence at very different ages; it is very soft, and, indeed, almost gelatinous, during childhood and youth; its firmness increases with age, and in very old persons it becomes very hard. And sometimes the cataract is of an earthy character, which is very unfavourable for operation, as it is supposed to be the result of long-standing inflammation. These changes cause a variation in our operation for cataract, for we use the needle to get rid of a soft cataract, and we extract or depress the hard lens.

We do not really know the cause of the formation of cataract in the generality of cases. It has by some been ascribed to gradual decay, because it mostly occurs in old persons; but we meet with it in the young and middle-aged also, without its being the result of any known cause. On examining the opaque lenses after operation, we observe their opacities are greater on the superficies, and less as we proceed towards their centres. It is considered that traumatic cataract is the next in frequency to that which occurs in old age. I have before referred to the rapidity with which this is formed after a wound has been inflicted. In very many instances the lens becomes absorbed by the action of the aqueous humour: and mostly, in these cases, the capsule becomes opaque, and then we have subsequently to treat that affection by operation, but occasionally it remains tolerably clear.

I have, in a former lecture, mentioned that simple lentitis has been considered to be the cause of the formation of lenticular or capsular cataracts, whether it had been accompanied by iritis or not; but we do know, that when iritis has existed, we often have a subsequent cataract. We have frequently very curious histories presented to us respecting the occurrence of cataract in different members of the same family, as an inheritance, and in some cases we hear of this defect occurring at similar ages in different individuals of the same family, as we do of amaurosis.

I have known very many instances proving the hereditary tendency in certain families to this disease, and I have operated on more than one patient in the same family in several instances. I need scarcely say that excesses in taking spirits or fermented liquors has been always considered to create a tendency to this disease; also, I may mention certain occupations, such as the being exposed to the glare of hot fires, or very strong lights. I cannot myself give you at this moment any instances of this kind as having occurred under my care; but we have numerous records of such cases, and it is natural that such causes should lead to such results. Cases are also mentioned of persons having been suddenly thus affected when a fit of the gout has been suddenly arrested; as also when discharges which have long existed have been checked, head attacks have followed, and cataracts have likewise been formed. We have, according to the peculiarity of each case, different symptoms complained of; this is the result of the variety as to the part of the lens first affected. The more common form is that of the hard and firm lenticular cataract; it is generally slightly greyish on its exterior, and rather darker towards its centre; the consistence varies much in different cases. We can generally compress the external portion of the lens very easily between our thumb and finger, as if it were a firm jelly; its central part is then found to be more firm, and of a darker colour. Some have compared it to hard wax; in a few cases it is of a very dark colour, and in such instances it has been called black cataract, but it is then much like old mahogany, or the brown hard wax which we remove from patients' ears. The capsule often remains clear, and the lenses seem to have shrunk, leaving a space between the front of the opaque lens and the pupil.

The radiated form of cataract commences at the circumference; it progresses slowly, and occupies sometimes several years in becoming complete, when the lenses have become altered in consistence as well as in opacity, so as to form soft cataracts; they are much more convex anteriorly, and sometimes they press against the iris, and in those which are quite fluid we can at different times detect a change in their appearance, and the opacity at different parts seems to differ at different times by a kind of gravitation. I mentioned to you the term Morgagnian cataract, and I said it was considered to be the result of the presence under disease of opaque fluid between the lens and capsule; I have not seen any such condition so as to feel certain respecting it. The celebrated Beer described one case as having occurred in an elderly female after exposure to some very irritating vapours for only a quarter of an hour; and he adds, that, at the earnest request of the patient, he operated on it the next day! and that he found the capsule and lens both transparent! You, of course, may make your own comments on such a statement, either as regards the case itself, or the operation said to have been performed; I need not make any. The radiated form of cataract used incorrectly to be ascribed to an opacity of the capsule; but now it is well known to belong to the lens itself, and the opaque radii may be situated either at the anterior or posterior surface of the lens. We see continually opacities of the anterior portion of the capsule of the lens, and these cataracts present a great variety in their appearance. We see sometimes one and sometimes many opaque circular spots, of a dense white colour; in other cases streaks or crooked lines of opacity taking very various directions. We often observe this form of cataract in young children after severe ophthalmia, and small central capsular opacities often exist in their eyes for years, without causing them much inconvenience or any pain. Of course, when the opacities are numerous or extensive, vision is proportionally interfered with, but the lens in such cases becomes subsequently opaque also.

Very high authorities speak of posterior capsular cataract as occurring frequently. I have seen occasionally some cases in which there were these appearances of very deep, concave opacities, and in which the lens appeared to be clear; and I have assumed that these were posterior capsular cataracts; they presented a dirtyish-white or dull-yellow appearance; the patients can read large print pretty well, until the lens becomes opaque, which will almost inevitably gradually be the case; the interval is longer or shorter in different patients, but we can generally observe the gradual progress of the opacity, and the corresponding decrease in the power of distinguishing objects clearly.

If the lens has been absorbed after wounds or operations, we sometimes see a membranous capsular cataract, of a whitish colour, and of varied density; it may fill the pupil, or only occupy a part of it; and it may be adherent at different points, and in different modes. In many cases we see the combination of capsulo-lenticular cataract exhibiting itself in different forms: thus we speak of the central capsulo-lenticular, the siliquose, the capsulo-lenticular, the cystic capsulo-lenticular, the bursal capsulo-lenticular, &c. The common capsulo-lenticular may commence from any of the parts, and is said to be generally the result of some inflammation, from accident or otherwise. The lens, in these cases, presents different degrees of firmness, even to that of a fluid state, occasionally. The patient generally has very little vision, as the opaque capsule is very thick, and also the lens is opaque. The central capsulo-lenticular form is seen in the instances of the children to whom I just now referred. They become very myopic, and can scarcely be taught to read. The lens is very generally opaque in these cases, and only a small, dense, and white, opaque spot, exists, in front of the centre of the capsule. The siliquose cataract is that wherein nutrition has appeared to have been deficient; the capsule is often shrivelled, and the lens is often nearly, if not entirely, absorbed. I have seen this form a few times in weakly children; the remaining small, white cataract, was lying far back, and the eyes presented an unhealthy appearance. That which has been termed cystic cataract occurs after accidents, where the opaque lens lies in its capsule, but is dislocated, so as either to lie in the bottom of the anterior or posterior chambers, and it sometimes floats about. It is always very evidently an unfavourable case, and amaurosis generally accompanies it. I have never seen the form which authors speak of as the bursal capsulo-lenticular cataract, and which they describe as consisting of a collection of matter in a cyst within the capsule.

We have as yet been considering true cataract, with its varieties; but we also often see those which are termed false or spurious cataracts, such as pigmentous cataract, and fibrinous cataract, with their varieties; by the former term we mean, that some portions of the pigmentous membrane are adherent to the front of the capsule; this often occurs after severe ophthalmia, where iritis has existed, and the action of the belladonna appears to have abruptly torn away the posterior surface of the iris from the anterior portion of the capsule, to which it had become adherent previous to the application of this valuable extract; or it has been supposed to have occurred as the result of violent blows on the eyes, having effected a separation of these portions of membrane.

The second form is much more common; it is also the result of inflammation, as lymph is quickly thrown out during severe ophthalmia, and adhesion as quickly takes place. These forms of cataract may present many varieties. We may see a dense clot, with or without blood mixed with it, or we may see threads of fibrin stretched across the pupil with every variety of direction. We cannot afford cataractous patients any benefit by giving them convex or concave glasses, but the neutral tint glasses will assist them in some degree, by diminishing the light. I have several times, on observing that patients had assisted themselves slightly by using dark glasses, suspected the existence of cataract, and of the existence of which they had not the remotest idea; and on the application of belladonna to their eyes, I have surprised them by the temporary advantages they derived from it, but I have had also to grieve them by the announcement of the facts of the case.

In speaking of the periods of the formation of cataracts, I of course mentioned congenital cataract. This may be lenticular, or capsulo-lenticular; very generally it is the latter, and the lens is mostly opaque throughout. It is soft, sometimes gelatinous, or even approaching to a fluid state; sometimes it is only partial. The opaque lens presents a glistening surface, and a flocculent appearance with the colour of adulterated milk. The circumference of the lens is sometimes quite transparent, and the centre is opaque. This accounts for the great assistance belladonna renders to patients thus affected, for directly the pupil is thus dilated, the patients see distinctly. We often observe opaque radiating striæ passing from the central opacity through the transparent part of the lens, and towards its circumference Very frequently the capsule is often affected, and we observe small opaque spots, or streaks, in it, sometimes circular, and at other times presenting many varieties of shape, or the capsule may be so entirely opaque as to present one uniform milky opacity, in which case we cannot ascertain whether the lens is clear or not.

We often have children brought under our notice, who have been thus blind from birth, and, according to their increased age, have their eyes become more unmanageable, for their eyeballs are continually rolling about without purpose. If the child is brought to us very young, this unfortunate rolling motion has not become so habitual, and we can then benefit in a much greater degree our little patient by the necessary operation.

It is now pretty generally agreed that we can scarcely operate at too early an age. The operation, which is simple, may be performed as early as one month, or from that to two months after birth: our purpose, you will readily conceive, being to prevent the infant acquiring this rolling motion, which, once thoroughly acquired, is seldom entirely got rid of.

Patients who have only a partial opacity of the capsule or of the crystalline lens, and that central, have been known to pass through a long life without knowing the real cause of their very imperfect vision, but they have had sufficient clear spaces for a certain degree of vision, and therefore their eyeballs remained steady, and were acted on properly by the muscles of the eye. I had a friend at college who was thus affected; he had also an awkward squint, and he used to hold his head very much on one side. The opacity in the lens was small, and not quite central, in his case. He seemed quite satisfied with his condition, and he has gone on through life, but of course knowing that he had some peculiarity in his eyes which he was content to put up with, inasmuch as he had never been otherwise.

Several cases have occurred of persons who have been supposed to have been more or less amaurotic, and who have only had their real condition explained to them in consequence of their gait, and the habit of shunning the light, having attracted the notice of their surgeons, who, by the application of belladonna to their patients' eyes, have thrown them into an ecstacy of joy by the sudden and unexpected pleasure thus afforded them. About fourteen years ago, I was asked to visit a blind man at Hackney, who was a pensioner of a city company, with which I was connected; and when I arrived there, I found his mother, a feeble old woman, blind with two cataracts. He, the son, had imperfect congenital cataracts, which had never been attended to, but which permitted him to follow some moderate occupation. I was then also shown three daughters, each of them with two congenital central lenticular cataracts; they could only perform the simplest duties of life, in consequence of their misfortunes. I could scarcely believe their statement—viz., "that they had never applied to a doctor, because they knew it was no use, as their father and grandmother had the same disease." I took them under my care, and the three daughters remain, even to this day, my patients. The parent and grandparent have died.

From the knowledge that adult patients thus affected are very subject to a disorganizing inflammation of their eyes after operations, we are not in the habit of recommending them to submit to any, if the dilatation of the pupil by belladonna will give them any tolerable vision. And as we know well that this drug does not lose its power over the iris by long continued use, we are content to prescribe it, and it alone, in such cases; consequently I supplied the father as long as he lived, and the three daughters, two of whom have since married, with belladonna: they come to me now, in turns, once a month, to my house, or to the Ophthalmic Hospital, for a fresh supply, and they have been a source of great interest to many of our pupils in succession, for years past; the unmarried one is now in service, and can perform the ordinary duties of her situation well. Their present ages are about twenty-eight, twenty-nine, and thirty-three. I have several other patients attending me now from time to time who are similarly benefited. The two sisters who are married have not brought to me any of their children, so I should hope this inheritance may not have been continued to the fourth generation, although I should not be surprised if such an occurrence should take place.

In my next lecture, I shall proceed to the consideration of the treatment of cataract.

Clinical Lecture[*]

ON

INJURIES OF THE HEAD AND SPINAL CORD.

Delivered at St. Thomas's Hospital,

By SAMUEL SOLLY, Esq., F.R.S.

Gentlemen,—We have lately had under our care several cases of injury of the cerebro-spinal axis, of considerable interest. To these I will now direct your attention; and as I have the pleasure of addressing many whose faces are new to me, and whom I presume are commencing their studies, my older friends and senior auditors must excuse me if some of my observations are trite and rudimentary.

Case 1.—William W——, aged forty; occupation, plasterer; stout, well-built, and lusty; of moderately temperate habits; admitted into George's ward, under the care of Mr. Solly, about ten a.m., Sept. 20, 1850, having fallen from a scaffolding, in the Brixton-road, three-quarters of an hour before, brought here in an insensible state, and according to his fellow-workman's account, having lost much blood from a wound of the scalp, extending from behind forward, laying bare a large part of the pericranium, on the left side of the head, but leaving the pericranium entire. On examination, the skull was found entire, although the fall had been nearly on the vertex of the skull, from a height of fifty feet. There was also an oblique fracture of the left clavicle, and the corresponding shoulder was much bruised. Whilst having his head shaved, he became a little conscious, and knew a fellow-workman who brought him here. He complains much of his shoulder and back of the neck, where the head is raised, but not at all of his head; and puts out his tongue when asked to do so; the pulse is small, weak, easily compressible, 70; pupils a little dilated, with slight action; the wound dirty, and filled with sand and gravel; respiration is quiet and easy. The wound, after being well cleaned, was bound up gently with a linen roller, and cold applied to the part.—One P.M.; Has been dozing occasionally, and quiet; perfectly conscious; pulse as before; body cool; constantly complains of his shoulder and neck; pupils partly but equally dilated; the right side is paralyzed, and there is loss of sensation, as well as motion, as high as the elbow. I did not ascertain the precise time that this occurred, although I found that he could not move his arm about twelve. Ordered, calomel, two grains, every four hours; cold to the head.—Nine P.M.: Skin warmer, pulse firmer; complains of the numbness in the right side; pupils still dilated; much thirst; tongue dry; head hot; has no power over his bladder, and has but little in his left leg; pulse 80, compressible.

Sept. 21st.—Eight A.M.: Quiet all night, dozing occasionally, yet feels much pain in all his limbs; he has a little more sensation in his right arm, but no motion; face flushed; tongue dry and brown; much thirst; no intolerance of light; pupils as before; skin hot; pulse 84, soft, compressible; no power over the bladder; says but little; left hand and arm very cold. Continue calomel; house-medicine and castor oil.—Eight P.M.: Very quiet, and at times half unconscious; bowels freely relieved; the skin and face hot and flushed, but moist; pupils scarcely sensible to light; tongue dry and brown; complains of his mouth, but no mercurial fœtor; more feeling in his right hand, and is said to have a little motion in his right leg, but I did not observe it; pulse fuller, but compressible, 96; urine high coloured, not decidedly ammoniacal, and still removed by the catheter.

22nd.—Quarter to six A.M.: I was called by the night-nurse, and found him dead. She had seen him some hours before, but did not observe any change. The patient lying in the next bed said that he had been awake two hours, but did not see the least movement, or hear the least noise, from the bed; and he appears just the same, as regards position, as when I left him at ten last night.

Post-mortem appearances.—Body examined by Mr. Bristowe, thirty-two hours after death. No appearance of pus in the wound; no adhesion of scalp, but an appearance of fibrine on the pericranium, which is entire. The calvarium is uninjured; beneath the dura mater two small clots of blood were found, both together, smaller than a four-penny-piece; a little fluid between dura mater and arachnoid; much more beneath the latter, and the membranes generally congested; no other change found, except congestion and effusion of serum to the extent, perhaps, of an ounce and a half, in ventricles and elsewhere. Lungs very much congested. Heart fat, but otherwise healthy. Abdominal viscera congested. Shoulder: Clavicle fractured very obliquely at the junction of the prismatic with the flattened portion, and the surrounding tissues infiltrated with blood. Spinal column: A fracture of the right laminæ of the arches of the fourth and fifth cervical vertebræ, with considerable congestion of the membranes of cord in their neighbourhood; hæmorrhage into the substance of cord to considerable extent on the right side, more slightly on the left, but no breach of surface; the effused blood on the right side extended about three-quarters of an inch longitudinally, and in the centre of the effusion it was about a quarter of an inch wide, occupying the whole of the grey matter, and nearly half of the white column, but not reaching the surface; on the left side, the deposit was at least one-fourth that on the right, and more separated, so that a much greater extent of the columns escaped uninjured.

The case which you have just heard read, gentlemen, is peculiarly interesting in a physiological point of view, and it affords some points for observation in regard to practice and diagnosis.

I happened to be in the ward when the men came in, for I shall have occasion to call your attention to another case of injury to the head, admitted at the same time. He was quite sensible when I saw him, and I was pleased to find him recover so quickly from the effects of the concussion. There was nothing in his pulse or general symptoms either to call for, or warrant, any bloodletting. When I saw him again, at one o'clock, and found him suffering from hemiplegia of the side opposite the injury of the head, I thought it most probable that there was some lesion of the right hemisphere. I could not attribute the paralysis to effusion of blood on the brain, for he had none of the symptoms of compression. It has been considered in the diagnosis of diseases of the brain and spinal cord, and, I think, justly, that hemiplegia or paralysis of one side of the body is an indication that the disease is in the brain, not in the spinal cord; and in this case of injury I certainly did not look to the spinal cord as the seat of mischief. I confess that I could not understand the case; I could not explain to my own mind why there should be such decided paralysis following a blow on the upper part of the skull, and such entire absence of mental disturbance. The mind was intact. Again, the pupils though slightly dilated, were both alike; there was no difference between them. As a general rule, I have found that one dilated pupil is an almost certain sign of severe injury to the opposite side of the brain.

With regard to the treatment: You will remark that I ordered a linen bandage to be applied to the head to bring together the lacerated scalp, instead of either sutures or plaster, as less likely to excite erysipelas. I ordered the calomel rather to prevent the occurrence of inflammation than to subdue any that was present. The next day it was evident that the man was much worse, but still there was no particular indication for either a more decisive antiphlogistic treatment, or the contrary; and in this opinion my colleague, Mr. Green, who saw him with me, agreed.

The following day he died suddenly, and the post-mortem examination alone reveals the cause. In the examination of the head we found two small clots on the brain, about the size of a pea, beneath the seat of external injury to the scalp, but they were too small to account for the paralysis. There was considerable venous congestion, so much so that mentally I blamed myself for not having bled him from the arm. At the base of the skull there was considerable serous effusion, but it was not until we examined the vertebral column that the mystery was solved.

And here let me remark that we found—what I have often seen before—the surface of the cord perfectly sound and uninjured, and the interior bruised and softened. In these cases it appears that the dura mater protects the firm fibrous neurine, which is placed on the circumference of the cord, while the more delicate vesicular neurine is broken down, and its bloodvessels ruptured. The greater extent of the injury on the right side accounts for the paralysis of the same side of the body. The proximity of the injury to the medulla oblongata accounts for the suddenness of the death.

The next case to which I shall direct your attention was admitted at the same time. He is now, I hope, out of danger, but, for a short time after his admission, he appeared to be *in articulo mortis*. I will not anticipate, but at once read to you the case.

Supposed Fracture at Base of Skull.

Henry H——, aged thirty-eight, a plasterer, residing at Brixton, of short stature, and a light weight; generally healthy, but of intemperate habits; admitted, under the care of Mr. Green, into George's Ward, Sept. 20th, 1850, having fallen from a scaffold, nearly fifty feet high, in the Brixton-road, at a qurater-past nine A.M.

On admission, half an hour afterwards, was partly conscious, and wished to walk out for a certain purpose; surface pale and cold; pulse about 70; presently he attempted to walk, but soon staggered, and fell back to his seat, and became insensible; on the journey to the hospital there had been *profuse* bleeding from the left *ear* and nose, but at admission had nearly ceased; pulse then fell to 32, with stertorous breathing; widely dilated and insensible pupils; and respiration gasping, probably not more than eight or ten per minute; body cold and deathly; in half an hour the pulse rose to 92, and at eleven A.M., 105, soft, quick, slightly irregular; moaning and crying out very much.—Twelve A.M.: Has vomited blood; quieter; pulse 90; head cold; pupils now act a little; respiration slow, but not stertorous.—One P.M.: Eyes very sensible to light; still slight oozing from left ear; pulse 80, stronger; has again vomited a little blood.—Four P.M.: Opens his eyes occasionally, but soon closes them; calls out "cramp;" respiration easy and quiet.—Nine P.M.: Very violent; and strapped down to bed; screams and stares wildly when spoken to; pupils less dilated, each equally. Skin warm, and covered with perspiration; pulse 104, harder, and quickened by struggling; bladder emptied by catheter; no alvine evacuation. To take calomel powder, two grains, every four hours; mercury and rhubarb, one scruple.

Sept. 21st.—Ten A.M.:—Very violent all night; no more vomiting or bleeding from ear; hears what is said, but does not seem to understand; skin and head hot, but not dry; face flushed; pupils equally susceptible of light and contract fully; thirsty; pulse 94, easily compressible; during the day, he became quieter, and pulse fell to 80; bowels still confined. Repeat calomel and rhubarb, and to have a mustard plaster. Eight P.M.: Much quieter; doses occasionally; understands questions; putting out his tongue when asked to do so; eyes not so impatient of light; head at times cold; at others, hot and flushed; pulse small and weak, 86; perfect use of all his limbs; no bruises or wounds can be discovered; says he is very giddy and confused in his head. Bowels not open, but seems in pain there; has passed his urine voluntarily; it is naturally acid; being quieter, a leg and arm were released from confinement.

22nd.—Had a much quieter night, and slept sometimes; more rational, but does not know persons yet. Pulse still weak; bowels freely relieved; skin cooler; tongue white, and lost its dry brown fur, moist. Continue medicine.

23rd.—Inclined to be a little noisy; the pulse harder, yet compressible; skin and mouth drier, more thirst; tongue whitish brown; pupils more dilated, each equally, and sluggish; not so rational; head hotter; bowels open. Ordered, forty leeches to scalp; continue calomel, two grains, every four hours, with effervescent mixture.

24th.—Quiet, but conversation irrational; heat of scalp less; tongue white, moist, and mouth affected by calomel; pulse very easily compressible; bowels open; urine natural.

25th.—More restless, but some sleep, fully touched by calomel; pulse feeble and sharp, 85; scalp cool at times. Omit calomel; continue mixture.

26th.—Very restless all night; more irrational; heat of scalp; increased; pulse weak; pupils contract well; bowels freely open; much thirst; salivation still continues. Repeat forty leeches, and to have soda water.

27th.—A very rambling, restless night, getting out of bed and constantly talking; mouth tumid and very offensive; thirsty still, but will not take the medicine; urine high coloured, small in quantity, acid; pulse small, weak. Mr. Solly, finding that the bleeding did not diminish the restlessness, &c., but rather increased it, ordered tincture of opium, forty minims; compound spirit of ammonia, half a drachm; camphorated mixture, one ounce at night; sesquicarbonate of ammonia, five grains; tincture of opium, ten minims; camphorated mixture, one ounce every six hours.

28th.—Had a much quieter night; more composed; does not talk so much; pulse 88, soft; bowels open; no headach complained of.

30th.—Much the same; talks rationally on most subjects; mouth very sore; head cool; pupils active; pulse 70, regaining power; sleeps soundly at times

October 1st.—Pupils unequally dilated and more sluggish, the left being least; rather more restless; bowels not open; ordered house medicine.

3rd.—Unequal dilatation not present, but still sluggish; does not talk rationally about his accident, but on other things quite sane; bowels freely open; mouth continues sore, but using the chloride of soda gargle; pulse quiet, without power; thinks he could eat if it was not on account of sore mouth.

6th.—Slowly improving in strength, but yet labouring under delusions as to where he is and how his accident occurred.

9th.—Sits up some hours every day, and walks about the ward with a steady gait; is now aware that he is in St. Thomas's Hospital, and also of the cause of the accident, but would hardly believe it at first.

11th.—Appetite improves; wants to go out.

12th.—Last evening became restless and rather bewildered; says he feels confused and can feel his temples throb, and has been chilly, several times wanting to sit by the fire; he has more thirst, but his tongue is clean, and bowels freely open; pulse 80, soft. Mr. Solly ordered a blister to the neck, and to have tincture of opium, forty minims, if the restlessness continued at night.

13th.—Is much more composed, and slept very comfortably after the blister had acted; did not require the draught; no chills.

14th.—Continues in bed, and better, but the left pupil seems slightly more dilated than the other.

21st.—Improved in every respect; quite rational, and free from headach, but he says his head is not strong yet, and that he finds himself best when quiet

In this case we have all the evidence of fracture of the base of the skull. The profuse bleeding from the ear, the injury inflicted by a direct and very severe blow on the vertex of the skull; the insensibility, stertorous breathing, dilated pupils, and gasping respiration, not the effect of mere concussion, because he was conscious when first brought in, but coming on with the attempt to walk, all designated serious injury to the brain, and its protecting instrument, the skull. Sir A. Cooper in his interesting lectures on surgery, used to say, that fractures of the base are generally united with extravasation, and here we had the signs of compression as arising from extravasation. The signs of inflammation were also present to a certain extent in the delirium and excitement which followed.

With regard to the treatment of this case you may perhaps have been surprised, with the above diagnosis of the injury, that I did not bleed him from the arm. My reason for not doing so was, that the pulse did not appear to me at any time to indicate that *general* tension of the arterial system which can alone justify *general* bleeding; for I can assure you that the lancet has killed more patients than it ever saved. The time has passed, gentlemen—at any rate in St. Thomas's Hospital—when the lancet is considered indispensable to the recovery of a patient suffering from fracture of the skull. I am quite aware that you have a different class of patients to deal with in the country, that venesection may be much more frequently required there than in London.

It is quite true that this man lost a large quantity of blood on his way to the hospital, and it is very probable that if he had not been thus blooded, that the lancet might have been required; therefore all that I wish to impress on your minds is, that, as a general rule, it is much better to avoid the use of the lancet, and that if you have to combat local inflammation, combat it by local depletion and mercury. Yes, my friends, mercury; this is, indeed, our sheet-anchor in all cases of inflammation and extravasation. And to the influence of mercury, rapidly and decidedly induced in this case, do I attribute this poor fellow's recovery.

The manner in which the mercury was administered I considered very important. In a general way, as most of you are aware, when we want to salivate a patient rapidly, we give calomel combined with opium, to prevent its passing off by the bowels, but in injuries of the head you must not give it with opium. In the first place, the opium is seldom wanted, as the bowels are usually so torpid that the calomel does not excite diarrhœa; and, in the second place, the tendency of opium to produce congestion of the brain is so decided, that the opium will do more harm than the mercury will do good. You will remember, that shortly after the man recovered from his semicomatose condition, he became more and more excited, and that he was strapped down to the bed. Now, do not judge from this that I approve straitwaistcoats and straps in the treatment of lunacy; on the contrary, I think that their use in such cases is unjustifiable. I consider that those men (I mean, especially, Pinel in France, Hill and Conolly, in this country) who have proved that they may be abandoned altogether, are the greatest benefactors to mankind that have appeared on this earth for centuries. No words can express the load of misery that Conolly has torn off the shoulders of suffering humanity by the bold intrepid course, through good report and evil report, which he has pursued at Hanwell. We erect monuments, and give titles and fortunes to our warriors and our successful legislators, but we leave the modest silent philanthropist to effect a revolution in the cause of benevolence, and pass unheeded and unnoticed into his grave.

You must forgive this digression. I believe that a case like this is an exception to the rule, and that it was just as necessary to strap this poor fellow down to the bed with his fractured skull, as it would have been to have strapped his leg down if that also had been fractured. I believe that his safety depended on his not being allowed to move at all.

In this case, as in many others of injury of the skull, when there has been much blood lost, the time arrives when your patient requires an opposite line of treatment, when he becomes restless from exhaustion and debility.

This occurred on the seventh day after admission. The day previously, finding him rather more irrational, with some heat of head, I ordered the leeches to be repeated, but he was not relieved; he had a more restless night, and finding him fully under the influence of the mercury, and the pulse soft and feeble, and that his mental condition improved under the stimulus of talking to me, I determined to try the effect of ammonia and opium. In prescribing this, I directed the dresser to watch its effect, and to continue it or not, according to the result. The effect was decidedly beneficial. He had a much quieter night, and was decidedly better the next day.

In these cases it is always advisable to order ammonia in preference to any permanent stimulus, as the effect, if prejudicial, soon passes off. With regard to opium, I find that in using it in affections of the brain, whether idiopathic or from injury, that if it excites, instead of narcotizing, that it is an indication of the mischief being inflammatory, and not anæmic, and that if cold applications to the head will procure sleep when the opium fails, antiphlogistic measures are required.

At one time it was considered that if a case recovered, it was a proof that it was not a fracture of the base of the skull, but this is now no longer the opinion, as there are positive cases on record of fracture of the base, that have recovered, the fracture having been proved by post-mortem examination.

The next case, though fatal, is extremely interesting:—Thomas P——, aged thirty-two, navigator, a robust man, but of intemperate habits, admitted (August 29th, 1850) into George's ward, at half-past seven A.M., under Mr. Solly, having sustained an accident just before, by the falling of some iron block apparatus of great weight upon his head. On admission he was seen by the house-surgeon, and found in a semi-comatose condition, unable to walk without assistance, or to give any account of himself, but tossing about in a violent and restless manner; pupils were dilated and sluggish; skin cold; pulse rapid and weak; features collapsed. A scalp wound which had bled freely, four inches in length, was found over the lower part of the parietal bone, extending from the middle line, near the posterior superior angle, in a direction downwards, backwards, and to the left side, and on introducing the finger, a fracture was discovered. At one P.M., Mr. Dixon saw him for Mr. Solly, and had the head shaved. On drawing back the edges of the wound with a retractor, it was found that both tables of the skull were splintered and depressed; the outer table, to an extent corresponding to the size of a halfpenny, and nearly circular in shape; the inner table of course was fractured to a greater extent. Feeling the splinters of bone loose, Mr. Dixon was able to extract them without a trephine: about a dozen pieces were thus removed by the elevator and forceps, some of the spicula, extending some distance beneath the edge of the outer table; the dura mater was found uninjured except by the point of the spiculum, which had become fixed in it. On the removal of the bone the brain rose and fell synchronously with the respiration; free hæmorrhage took place both from within and without the skull; the latter was arrested by pressure and the tying of one small artery in the scalp; the former ceased after a while, upon the application of cold. He cried out lustily during the operation, but immediately afterwards sank into a quiet sleep. His pulse was now 108, and weak; tongue clean; the irides answered freely to the stimulus of light.—Eight P.M.: Still quiet; sleeps occasionally; when awake is quite sensible; urine passes freely; bowels not open. Ordered croton oil, two minims, immediately.

Aug. 30th.—Has passed a tolerably quiet night, but was restless at intervals; skin cool and moist; head warmer than natural; wound looks healthy; no appetite, but is somewhat thirsty; pulse 90 and soft; some headache. Ordered, forty leeches to the head. Cold lotion to the back. Mercury-with-chalk, five grains, every six hours.

31st.—Better after the leeches, which bled freely; has still some headache and heat about the head; bowels open.

Sep. 1st.—Headache continuing; in other respects he is much the same, and quite sensible; gums spongy from the mercury. Ordered, forty leeches to the head.

2nd.—Passed a restless night; complains much of his head, which aches severely; tongue white and thickly coated; skin warm, but moist; pulse 84, soft; great thirst; has a tranquil expression of countenance, and is still perfectly rational. Ordered, nitrate of potass, ten grains; carbonate of soda, one scruple, in water; three times a day. Saline mixture occasionally.

4th.—No marked difference, except that the head aches less; pulse 78, soft; sleeps tolerably, and has no tremors either awake or asleep; answers questions rationally, and is not at all slow in comprehending them; wishes particularly to get up and take exercise; bowels rather confined. Half an ounce of castor oil immediately.

9th.—Paralysis of right side is still increasing; pain in head is better; blister discharging freely; pulse 96, small; gums very tender.

11th.—Sensation on right side of face is not much impaired, but there is considerable paralysis of the muscles on that side.

12th.—Is very drowsy to-day, and does not like to answer questions; speech is affected; complete paralysis of muscles on right side of body; says his head aches very much; blister discharges freely; pulse 80, easily compressible; tongue furred. To take solution of bichloride of mercury, one drachm, in sarsaparilla decoction, twice a day; beef-tea.

14th.—Getting weaker every day; is quite conscious, and can answer rationally, although his speech is faltering; bowels rather constipated.

21st.—Symptoms to-day have improved; he can speak a little better; headache better; a quantity of clear serum has come away from the wound to-day. Seton to be inserted in nape of neck.

23rd.—Has improved since Saturday, can speak more intelligibly; no return of sensation or motion on right side of body.

25th.—Seton is discharging; articulates better; appears more cheerful; sleeps well.

28th.—Speech improving daily; can answer quite distinctly and without exertion; head is much better; sensation in right arm has partially returned. He says that vision with the left eye is not so good as with the right; pupils equal to-day; serum still dribbles away from the wound; tongue cleaner; pulse feeble; is particularly anxious to get up.

29th.—He remained quiet until about two A.M. this morning, when he was found half out of bed with his head depending. He was put to bed, and the house-surgeon was sent for, who found him comatose, and with stertorous breathing; quite insensible. Was bled to twenty ounces, which had the effect of lowering his pulse, but did not relieve his symptoms, and he died about eight A.M.

Post-mortem Examination.—On the left side of the skull, about one inch and a half in front of the posterior superior angle of the parietal bone was an aperture, through both tables of the skull, extending obliquely outwards and downwards for about one inch and a quarter, and half an inch in breadth. This had resulted from fracture, the fragments of bone having been removed at the time of admission; no fissure could be seen extending in any direction from this aperture. The dura mater, at a part corresponding to the aperture of the skull, was ulcerated and disintegrated, and a probe passed readily into a cavity in the substance of the brain. There was some projection at this point somewhat resembling a hernia cerebri. Immediately in the neighborhood of this spot, the opposed surfaces of the arachnoid were very firmly adherent, and a little beyond this was a small quantity of recent lymph in the pia mater; beyond this, there was no indication of inflammation over the hemispherical ganglion; at the base of the brain, lymph and pus were effused into the pia mater in several parts, in a thin layer, especially in the neighborhood of the sella turcica, and over the right hemisphere of the cerebellum. The cavity of the left lateral ventricle, especially its posterior corner, contained a considerable quantity of pus, and an ulcerated communication was seen at its upper and posterior part, leading through the substance of the hemisphere to the aperture in the dura mater. *Chest:* Heart healthy; lungs congested; especially posteriorly, near the base of each lung, and in their substance were a few small patches of purulent infiltration; abdominal viscera healthy.

This case was one of those unhappy ones of fractured skull, with exposed and wounded dura mater, which are almost always followed by abscess of the brain. I dare say that some of you may remember the remark made on the 4th, the day but one before he had the convulsive fit. One of the pupils remarked to me how well he appeared to be going on, to which I replied—"I fear not; there is great danger of suppuration of the brain." The convulsive fit which followed, coupled with the other circumstances of the case, convinced me of the existence of abscess of the brain. I suspect that the immediate cause of this fit was the bursting of the abscess into the ventricle, for, on the following day, serum, almost clear, issued from the wound. The paralysis which followed was the result of some lesion of the conducting nerve fibres in the left hemisphere of the brain. This paralysis increased. The right pupil became at last permanently dilated. For a few days his intellectual faculties were entirely suspended; he was comatose and unconscious; but these serious symptoms abated, as I believe, from the free discharge of fluid from the ventricles, relieving the hemispherical ganglion from undue pressure, for the symptoms improved synchronously with an increased discharge from the wound; again the discharge abated, and he dies comatose, and the ventricles are found distended with serum and pus.

During the greater part of this case the mind was but little affected, and at no time was there any mental excitement, any maniacal delirium, and the post-mortem examination explains this fact. Around the opening in the dura mater of the abscess of the brain the opposed surfaces of the arachnoid were adherent, and bounded the inflammatory action. The *hemispherical ganglion beyond was not inflamed.*

With regard to the treatment, it was strictly but not severely antiphlogistic. I believe that his days were lengthened by it, and I believe *that* was all that remedial art could effect for him.

The case teaches you one very important lesson, especially in regard to private practice, where your reputation depends so much on the correctness of your diagnosis and prognosis. It teaches you how unfavourable your prognosis should be where the dura mater and brain have been wounded by a spiculum of bone, notwithstanding the absence of all serious symptoms for the first week or ten days.

I have now called your attention to all the most salient points in these cases, and I hope that they will give to my younger friends additional interest in the study of the anatomy and physiology of the brain.

CLINICAL ILLUSTRATIONS
OF
CUTANEOUS SYPHILIS.
HAVING ESPECIAL REFERENCE TO ITS PATHOLOGY AND TREATMENT.

By Erasmus Wilson, Esq., F.R.S.

(*Continued from Dec. No., p. 547, 1850.*)

The broad, soft, irregularly-shaped papule, situated in the centre of a circular disk, is characteristic of the leproid form of eruption, discussed in my last paper; but the central papule is sometimes wanting, either as a result of the mode of development of these disks, or as a consequence of maturity, the central papule having subsided to the level of the adjacent healthy skin. Hence, in an advanced stage of the eruption, or where the peripheral may be more active than the central growth, the central papule may be absent, and the ring have spread to a considerable size, assuming all the characters of a retreating lepra, with the exception of its scales. The following cases exhibit both of these characters:—

LICHEN SYPHILITICUS LEPROIDES.

Venereal sores occurring one week after connexion; followed in three weeks by lichen leproides. Three months after primary sores, another attack of lichen leproides, with sore-throat.

Case 15.—A young man, aged twenty, a carpenter, had impure connexion in the beginning of November, 1847. A week afterwards he discovered several small superficial sores around the edge of the prepuce. The sores remained in a chronic state, producing contraction and thickening of the aperture of the prepuce, and were unhealed at the date of his first appearance before me—namely, on the 21st of March, nearly five months. The contraction of the aperture of the prepuce was such as to prevent its retraction. He has had no enlargement of the inguinal glands.

Three weeks after the occurrence of the sores he first perceived an eruption of spots upon the skin. They appeared first on the right hip, two in number; then three similar spots showed themselves on the inner side of the right thigh, at its upper part; subsequently one came out upon the left thigh. These spots looked quite fresh on the occasion of his visit to me; and as he informed me, had undergone no change, saving that of increase of size. Six weeks before he came to me several new spots appeared, three being situated on the penis; and within a week of his visit, two or three more had broken out.

With the first attack of eruption he had had no sore-throat, but soon after the increased outbreak, namely, about the beginning of March, he suffered from soreness of the fauces; and when he consulted me, there was considerable redness, with superficial ulceration.

The whole number of patches on the skin did not exceed twelve or fifteen, and they were situated as above mentioned. Of those on the right hip, one was irregularly circular, the other oval; the former measured one inch and a quarter, and the latter one inch and a half, in longest diameter. They consisted of a central broad and fleshy papule, surrounded by a raised ring; both the central papule and the ring were of a deep dull red colour, and the redness extended over the whole of the area included within the ring. The papule was wrinkled and smooth on the surface; the ring was marked by numerous transverse furrows, and was in a state of desquamation, the portions of desquamating epiderma corresponding in shape with that of the intervals between the wrinkles. On the right thigh, where there were four patches, one was a simple papule, measuring one line and a half in diameter. It represented the first stage of growth of the patch. Another was a raised, flat, oval-shaped spot, half an inch in diameter, and appearing, from the elevation of its border, to be slightly depressed in the centre. There was, consequently, an absence of the central papule. The remaining two measured an inch and an inch and a half in diameter, were oblong and oval in shape, and had each a broad and irregular central papule. Of the three patches on the penis, the largest, measuring an inch in longest diameter, had a central papule; the other two were smaller, and mere rings, enclosing an area of brownish and slightly corrugated skin, over which the ring had crept in its onward growth.

Now, the resemblance of these patches to those of lepra vulgaris was very striking, and I have no doubt that they would have been called lepra syphilitica by any one who had seen them; and yet their origin and mode of development was identical with that of the papular eruptions previously described. They differed from lepra, however, in the absence of scales, an important point; and also in the presence of the central papule; the patches of lepra are depressed in the centre, these were more elevated in the centre than at the circumference.

I could not make much out of the treatment that this young man had pursued previously to his application to me; but I inferred from his statement that he had not taken mercury, or, if he had, not to the extent of producing any effect upon the mouth. From the appearance of the eruption, and from the state of superficial ulceration of his throat, I inferred that it was one that would yield kindly to the iodide of potassium. I prescribed for him five-grain doses of that salt, in a drachm of compound tincture of bark, three times a day, and at the end of five weeks I was enabled to suspend all treatment. The sores on the prepuce were healed; the prepuce could be retracted; the throat was well; and nothing remained of the eruption but the dark-brown spots, which indicated where the patches had been. I told the patient to come back if he had any return of disease, but I have not seen him since.

Venereal sore, attended with bubo; leproid eruption nine months afterwards.

Case 16.—This gentleman consulted me for an eruption, which he considered to be common lepra, and its appearance was certainly such that it might have deceived men of more experience than himself. I assured him that it was a syphilitic eruption, and obtained from him the following statement of his medical history. He contracted a venereal sore in the month of April, and instead of remaining quiet, engaged in the occupation of fishing. He was, consequently, much exposed to the weather, frequently got wet and chilled, and, on one occasion, fell into the water. These irregularities probably excited the formation of a bubo, which went on to suppuration, and then became sinuous. The sore healed in about a month, but the bubo and its sinuses remained troublesome for four months longer. He treated himself upon simple antiphlogistic principles, and took no mercury. He was not aware of the occurrence of any eruption, subsequently to this period, and had no sore-throat.

In the month of February, of the following year, he was engaged in London, pursuing his studies, and he dissected assiduously, for several hours a day, in a very cold room. He then perceived an eruption, which appeared in spots upon the front of the trunk and legs; and had symptoms of a severe cold, with some degree of sore-throat. Thinking the sore-throat might be a symptom of secondary syphilis, he took the iodide of potassium, in five-grain doses, three times a day, and a Plummer's pill at bed-time, for three weeks. He then put himself on a course of nitric acid and sarsaparilla for another three weeks or a month; and finding no improvement in his symptoms, commenced taking one-sixteenth of a grain of bichloride of mercury, with decoction of sarsaparilla, three times a day. The mercury produced a diarrhœa, which lasted for three weeks, during which time he abstained from medicine, and then recommenced with nitric acid and sarsaparilla. He had continued the latter medicine until a short period previously to my seeing him, (July;) but with all his efforts there was no change for the better in the eruption, and he had come to the conclusion that it must be common lepra.

On examining the eruption, I found it situated principally on the lower limbs, where there were fifteen or twenty large rings, of a medium size of two inches in diameter. The area of the ring was perfectly smooth, and of a yellowish-brown colour; the ring itself was raised, of a dull-red colour, and irregularly circular or oval in its form. On the side corresponding with the area, the elevated margin rose abruptly from the surface; on the peripheral side it declined gradually to the level of the surrounding skin. The breadth of the rings was between three and four lines. The surface of the rings presented certain differences of appearance —in some, it was uniform and smooth; in others, the rings were marked by numerous transverse wrinkles; and others again were either papulated on the surface, or looked as if formed by the aggregation and fusion of numerous large papulæ. There was a light condensation of the cuticle covering some of the rings, and here and there was an indication of epidermal exfoliation.

On considering the history of the disease, as reported to me by this patient, and taking into consideration the chronic character of the eruption, and the soundness of his constitution, I determined to put him on a mercurial course, and prescribed for him the following pill, to be taken three times a day:—Blue pill, three grains; extract of conium, two grains. He commenced taking the pills on the 5th of July, and as he wished to leave town, I urged him to do so. In a letter which I received from him afterwards, he writes—"I continued to take the pills until the 4th of August, when my mouth became tender; I then left them off, as the spots on the thigh had disappeared, with the exception of a dirty mark. On the lower part of my inferior extremities, they are more elevated and scaly, but diminish gradually." He has remained, I believe, perfectly well.

In another case of the leproid eruptions which came recently under my observation, the peculiar features were, the distance of time which had elapsed between the primary and secondary disease, and the remarkably chronic character of the latter.

Sloughing venereal sore; no secondary symptoms; periostitis, four years afterwards. Ten years later, gonorrhœa, followed after five years by leproid eruption.

CASE 17.—A gentleman, aged forty-one, a member of the medical profession, became the subject of a sloughing venereal sore in the year 1826, being then about eighteen years of age. The sore commenced near the meatus, and extended to the frænum, which it partially destroyed. It was treated locally with the compound tincture of benjamin, and internally with nitric acid in decoction of sarsaparilla; and he was sent to the seaside, where he became quite well in the course of a few weeks. He had no bubo or other sign of absorption of the syphilitic virus, and no secondary symptoms.

In 1830, this gentleman became affected with inflammation of the periosteum of the nose, which was unattended with pain, but which ran on to suppuration and ulceration, and occasioned a perforation of the septum. He suffered, at the same time, with an acute attack of periostitis of the upper ends of the bones of the forearm for about three inches in length, but had no sore-throat. For these affections he took mercury about six weeks, and was salivated repeatedly, but each time the mercury was given up, the pains in the elbows returned. He then changed his residence, and went through a course of mercury, which was prolonged for thirteen weeks. At the end of this time the periostitis was cured, and he has since had no return.

In 1840, he contracted a gonorrhœa, having had a similar affection on a previous occasion. The discharge was arrested in four days by the use of copaiba.

In 1845, he first observed an eruption on the skin; it was unaccompanied by sore-throat, and has continued with very little change, and without the least irritation, until the present time. The eruption began by papular elevations of a dull-red colour, which increased by their circumference, and formed rings of various size and irregular form; the largest of the rings exceeding three inches in diameter. The area included by the rings presented a deep, yellow-brown, or fawn colour. The eruption was distributed chiefly over the limbs, some few of the patches occupying the arms, but the greater number (about twenty) the thighs and legs.

For the cutaneous disorder, he has obtained the advice of many eminent men, both at home and in America; he has again undergone a mercurial course to the extent of salivation, has used the proto-ioduret of mercury with guaiacum; the iodide of potassium, thirty grains to the dose, with decoction of sarsaparilla, and Donovan's solution. The only one of these remedies which seemed to touch the disease was the proto-ioduret of mercury with guaiacum, under the use of which the eruption increased in extent.

In summing up the leading points of this case, we find a phagedænic sore, as a primary affection, no secondary disease, and no complication from mercurial treatment. Four years after, the patient being attacked with periostitis, it was concluded that the inflammation of the bones must be the consequence of syphilis; that is, a tertiary syphilis developed four years after the primary disorder, no secondary disease having shown itself, nor any symptom indicating absorption of the syphilitic virus. He was now subjected, for the first time, to the action of mercury, and with the vigour and heroism of a by-gone age, for six weeks at a time, and until checked by salivation, and this repeated frequently; on one occasion, the mercurialization being prolonged for thirteen weeks. He informed me that as a part of his treatment, he took at this time 100 Plummer's pills, and that subsequently he underwent a six months' course of iodide of potassium and sarsaparilla. However, he got quite well of the periostitis, and has remained so ever since.

Ten years after the cure of the periostitis he had gonorrhœa, which gave way to copaiba.

Finally, five years after the gonorrhœa, he became the subject of a syphiloid eruption of the skin, the eruption bearing the before-mentioned characters of lichen leproides; and for four years this eruption has maintained possession of the skin, in spite of a vigourous and long-continued treatment; the patient having determined at any sacrifice to obtain a cure. The eruption gave rise to no inconvenience, and was of trifling extent; but it served to raise a doubt in the patient's mind as to whether it might not be the consequence of a venereal taint still existing in his constitution, the sequela of the gonorrhœa of 1840, or of the phagedænic ulcer of 1826.

The opinion of several eminent men whom he consulted in America evidently points to syphilis as the cause of the eruption. On the occasion of a recent visit to that country, he was again salivated, and treated with iodine and the triple solution of Donovan, but with no better result than before. In the fourth year of the existence of the eruption he is rather worse than better.

The question then comes to be—Is this a syphilitic or a mercurial disease? I am inclined to think it mercurial; and I see nothing unreasonable in supposing that mercury, used for a long time, may so alter the human constitution as to give rise, in the skin, to eruptions which resemble those produced by syphilis—in other words, to syphiloid eruptions.

The preceding are the chief forms in which exanthematic syphilis shows itself on the skin, all of them being simple modifications of the same type of pathological manifestation. There are, however, other modifications, resulting from a variety of secondary causes, to which I shall now draw attention. Sometimes the modification is the result of situation, as when it occurs on an exposed surface—for example, the face; sometimes it is the consequence of age—for example, infancy; at other times, duration, or mode of treatment, appear to be the modifying causes, and especially when mercury has been injudiciously or improperly exhibited.

The first of the cases which I shall narrate is an instance of a modification not unfrequently met with when the papulous eruption breaks out in abundance on the face. In this instance, the papulæ form, by their aggregation, large tubercular masses, which suggest the idea of an elephantoid disease. In my private notes, I have called this form of eruption, *lichen syphiliticus tuberosus.* It is not, however, like the previously described forms, a distinct eruption, but is merely a modification of the annulate and circumscribed varieties, when they are developed on the face, and particularly on the forehead, eyelids, nose, and ears.

LICHEN SYPHILITICUS LEPROIDES.

Venereal sore, with bubo; twenty-eight years later, a suspicious connexion without primary disease, followed, in six weeks, by severe secondary symptoms, roseola, and lichen annulatus.

CASE 18.—A young man, aged twenty-two, of healthy constitution, contracted a venereal sore, which was situated on the under side of the prepuce, a little to the left of the middle line; it never exceeded the size of a split pea, and got well in little more than a week. He had also a bubo of small size in the left groin, which suppurated, and burst spontaneously. Altogether, he was not ill more than two or three weeks. He was attended by a medical man, who gave him a pill twice a day, but he does not remember if his mouth became sore; neither does he remember whether he subsequently suffered from sore throat. He does not appear to have had cutaneous syphilis in any form.

A year and a half after the cure of the sore, he married, and has had a family of sixteen children, six of whom are now living. None of the children, either in infancy or since, have evinced any signs of cutaneous syphilis. He has now been a widower two years, and during this period has had occasional suspicious sexual connexion, but never the slightest indication of primary disease. The last connection of this kind occurred about six weeks or two months previously to his present attack.

He is now fifty years of age, and has the appearance of a man of sound frame of body. His present occupation is that of a compositor, but within the last ten years he was in affluent circumstances, as a printer and newspaper proprietor. Latterly he has suffered much from mental distress and poverty, having been for some months out of employment. The summer and autumn of 1848 he spent in the country, visiting several provincial towns, and at Christmas returned to London in excellent health. A week after his return, he obtained employment in a printing-office, which was badly ventilated, and where the gas escaped, and, being engaged on a morning paper, was kept at work until a very late hour, and sometimes the entire night. He suffered much from headaches during this engagement, was often chilled in his walk home, and a few nights before his illness got wet in a heavy rain. These headaches were often so severe as to prevent sleep, and he observed that they were accompanied during the night with profuse fœtid perspirations. One night, on his return home, at the end of the week, the headache was more violent than usual, and he retired to bed immediately. He soon, however, felt worse; his breathing became oppressed; he had severe pain in his chest on inspiration, and he was alarmed by a sense of impending suffocation. His medical man was sent for, and administered an emetic, applied mustard-plasters to the chest, and gave him an active purgative. He was relieved by this treatment, and passed the day more tranquilly, and, on the following morning, felt himself so well as to be able to leave his bed. On rising, he perceived that his skin was covered with a red eruption, which occupied the entire trunk of the body, the upper arms and upper part of the thighs. His medical man, Mr. Aldridge, informs me that this eruption bore all the signs of syphilitic roseola.

The roseolous rash continued to maintain its position on the skin for five months, namely, until the end of June, without change, and, in spite of all the remedies prescribed for him by the several medical practitioners whom he consulted; when, suddenly, and, as he conceived, in consequence of the action of the medicine he was taking at the time, or of a warm bath, the red efflorescence rose about the level of the skin, assuming a papulous character, and for the first time showed itself on the face.

On his first appearance before me, namely, in the middle of July, I found his face deformed by a tubercular eruption, of a dusky-red hue. On parts of the face, and particularly on the exposed portions of the neck, the eruption consisted of distinct rounded papules, of large size. On other parts of the face, the papules had the form of oblong mounds, more or less curved, and, again, in other situations, formed complete circles. On the forehead, the papules appeared to have become blended together, so as to constitute one single tuberous mass, of irregular shape, which extended across the brow, from one temple to the other. This mass was of a dusky-red colour, with a tinge of yellow, which gave it a coppery hue, and there was a seeming transparency about it, which made it resemble brawn, or a portion of coarse and thickened skin, in a state of œdema, from infiltration of a yellow serum. To the touch, however, the swelling was hard, and evidently occasioned by a thickening of the skin, and not by the infiltration of fluid.

The trunk as far as the waist, and the arms, were covered with the disseminated and annulate form of the eruption, the papules being more or less developed, and the rings more or less complete. The annulate character was, however, the prevailing type. In certain situations the papules were less fully formed, and appeared to be made up of a number of smaller papulæ, a very little larger than those of common lichen; and many of these smaller pimples, of a dirty hue, were scattered amidst the patches of eruption, or grouped around the larger papulæ or rings.

On the lower limbs and lower half of the trunk of the body, the papules and rings had subsided to the level of the skin, forming so many darkish-red, or brownish stains (maculæ) of a circular form. Many of these maculæ were sprinkled over with the dark remains of the smaller papules, or with the deeper-coloured spots which indicated the pores of the follicles. The maculæ were, for the most part, dark in the centre, fading away gradually to the circumference, and in some situations had the appearance of the stains of a bruise.

The general surface of the skin was dry, sordid, and discoloured, and presented the character so frequently met with in cutaneous syphilis. He had besides some degree of hoarseness, which had remained since his attack of pulmonary congestion, but felt no soreness of the throat, and I could discover no indication of ulceration either present or past. He had besides an excess of pulmonary secretion, and an unusual discharge of mucus from the pituitary membrane, the sequel of a catarrh which accompanied his first seizure.

Finding him, on his first visit to me in the middle of July, labouring under great depression of spirits, with a broad, moist, indented tongue, and other symptoms of relaxation of the mucous membrane, I prescribed for him a bitter infusion, with nitro-muriatic acid; and at the end of a fortnight, when these symptoms were relieved, I put him on a course of one-eighth-of-a-grain doses of bichloride of mercury three times a day. At the end of a month all the eruption had disappeared from his body, and only a trace remained on his forehead. I advised him nevertheless to continue his drops for several weeks longer—an advice which he did not follow, for thinking himself well at the end of another fortnight, he omitted his medicine altogether.

A month after ceasing to take the bichloride, he again came to me, complaining of depression, and showed me an abscess in the axilla. I ordered him to resume the nitro-muriatic acid, with sarsaparilla, which he continued for a month. During this month, the symptoms of illness increased: he had violent headaches, chiefly on one side of the head; they came on just before dinner, and after continuing for some hours, went off on taking a cup of tea; at other times they occurred in the evening, and continued until he fell asleep. He had, besides, pain along the shin-bone of one leg, and redness of the integument, with extreme tenderness on pressure, at one particular point. After a few days, the eruption re-appeared on his face, and the pains in his head and shin were relieved. The papules were large and tender to the touch, and almost limited to the face; not more than six or eight existing on other parts of the body. But he had no sore throat, although his voice still continued husky.

After a month of the nitric-acid treatment, he felt better in health; but I was far from satisfied with his progress, and with the appearance of the eruption. He had pains in his joints and limbs, and the papules had commenced to assume an ulcerative disposition, and several of them were covered with thick crusts. I therefore returned to the bichloride treatment, and ordered him to take, at bed-time, the following pills:—Compound powder of ipecacuanha, three grains; extract of conium, one grain and a half. Two to be taken at bed-time, every night.

Under this plan, the eruption again disappeared entirely. He was to omit the medicine after a course of six weeks, since which time I have not seen him.

The above case is an interesting example of the effects of the secondary poison. This man had no primary disease; the person from whom he imbibed the poison probably had none either at the period of connexion. It is therefore an instance in which the virus, instead of exhausting itself upon a spot of limited extent, as in the production of a venereal sore, is diffused through the entire system of the infected person, and manifests its presence by the morbid action of several of the organs of the body—for example, the mucous membrane, the skin, the fibrous membrane of the bones, and the nerves.

Why the poison should affect those organs in particular is a question of considerable interest. I believe the reason to be, that the action is one of elimination, and therefore peripheral. In this way we may understand the action produced on the mucous membrane and skin; and may we not, in like manner, trace a similarity between the function of the periosteum and neurillemma in their relation to the bones and nerves, and the skin and mucous membrane in their relation to the mass of the body.

It occurred to me, in the course of pursuing the track of the phenomena illustrated by this case, that the period of infection of my patient was the latter end of November, or the early part of December. The secondary symptoms made their appearance six weeks after the latter period—namely, near the end of January, the usual time of occurrence of constitutional symptoms. But I am fully of opinion, that without the predisposing causes which I have alluded to in the narrative of the case, namely, confinement in a bad atmosphere, late hours, and exposure to cold, he might have escaped the secondary symptoms altogether—in other words, by care and proper treatment, they might have been warded off. This mode of viewing the subject, if it be true, would influence our treatment of cases of suspicious connexion very materially; and, if it had no other effect, would lead us to enjoin the strictest caution to our patients under similar circumstances. I do not profess that medical treatment would in every case prevent constitutional symptoms, but I believe that it would go far towards effecting so desirable a result, and upon principles which I have already endeavoured to illustrate at the commencement of these papers.

ON THE DANGER OF TYING UP THE LOWER JAW IMMEDIATELY AFTER SUPPOSED DEATH.

By C. J. B. Aldis, M.D.,

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Various well known practices are resorted to by the public immediately after the supposed death of their relatives or friends, such as placing shillings on the eyelids, a plate containing salt on the abdomen, touching the body, closing the nostrils, and tying up the lower jaw. Some of these peculiarities are harmless enough; but the two latter may be the means of destroying life, either wilfully or through ignorance.

C——, an infant, aged two months, was brought to me at the London Dispensary, on a Friday, a short time since, by its mother. It became atrophied soon after birth, and continued in that state for two months. The mother, having taken away the child, returned with it in a few minutes, told me that it was dead, and asked for a certificate. I examined the neck, and found the lower jaw tied up so tightly, as to prevent its being moved. I immediately set the jaw free, and asked why she had fastened it up so quickly. She replied that a woman at the dispensary seeing the jaw fall, and thinking the child was dead, had done it up. I declined giving a certificate then, but kept the mother in conversation for a minute or two, in order to see if any change took place in the countenance of the child, when the right eyelid began to move, and soon after the infant was restored to its usual state, and did not die until the following Monday.

It is very probable that the child would have been destroyed on the Friday had I left the dispensary before the mother's return; and it is also probable that in another case, with more stamina in the constitution, life might have been preserved for a longer period. It is true that air would gain access to the lungs through the nostrils, though the mouth be firmly closed, but not sufficient to keep a very weakly child long alive, especially when we consider the pressure frequently made against the larynx on binding up the lower jaw, and the effort required to fill the lungs with sufficient air merely through the nostrils. Is it not, then, obvious that the public should wait until a medical man has seen the body, or at least for a few hours after death, without precipitately tying the lower jaw, and incurring the risk of committing murder?

ON THE

PHYSIOLOGY AND PATHOLOGY

OF THE

GANGLIONIC NERVOUS SYSTEM.

By James George Davey,

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> "There are yet great truths to tell, if we had either the courage to announce, or the temper to receive them."—Disraeli.

(*Continued from January No.*, *p.* 30.)

CHAPTER I.—(*continued.*)

The observations already made in reference to acephalous and other monstrosities, no less than those which relate to the experiments of Dr. M. Hall and myself, abundantly prove the physiological position I have here taken—viz., that *life*, regarded as the "assemblage of all the functions, and the general result of their exercise,"* has its immediate principle neither in the brain nor in the spinal marrow, nor in any of the viscera of the chest or abdomen, but in the *solar ganglion;* yet it is no less certain, that all these parts or organs are necessary to the maintenance or continuance of life, as it exists in man, and the great mass of the lower classes of animals. The brain, principally, because the mechanical phenomena of respiration seem to depend upon it;—the spinal marrow, because it exercises a guardian power over the acts of ingestion and egestion;—and the viscera of the chest and abdomen, because they are necessary to the formation and circulation of the blood.

The only way that I am enabled to account for the discrepancy stated in the experiment of Dr. M. Hall and myself on the frog, is, that the excito-motory action which was produced by pinching or pricking the extremities of the animal, after the removal of the viscera and the ganglionic nervous system, must have resulted from the influence of that remaining nervous principle which exists, for a longer or a shorter period, in any portion of the animal organism, after, even, its removal from the trunk or body to which it originally belonged. It is well known that Le Gallois, Prochaska, and Hunter, taught that the nervous power is generated throughout the whole extent of the nervous system, even to the smallest nerves, and that it can exist, *for a certain time*, in the nerves of any part, independently of its source; and there can be, I think, no doubt of it. I have seen the heart of the *shark* contract vigorously, for even many minutes after its removal from the animal—a fact which proves, in the words of Hunter, that the nerves of a part continue the same action which they receive.†

I may here observe, that the experiments of Sir B. Brodie to disprove the assertions and opinions of Le Gallois, "that every part of the body derives its principle of vitality and irritability from that portion of the spinal marrow from which it receives its nerves," are open to some objection. The experiments of Sir B. Brodie are contained in the late Dr. Cooke's work on Nervous Diseases, and are as follow:—

Experiment 1.—Sir B. Brodie divided in a dog the skin and muscles which lie before the axillary plexus of nerves, and afterwards the nerves themselves. He then divided the remaining skin and muscles, the cellular membrane, and every other part connecting the anterior extremity to the trunk, with the exception of the axillary artery and veins, so that the vessels were completely insulated, and formed the only connexion between the limb and the trunk. The divided edges of the skin were united by sutures. Twenty hours afterwards, an incision having been made in the forearm, the arteries bled freely, and the blood was of a bright scarlet colour. The muscles, by means of the voltaic battery, were readily made to contract, and when several pairs of plates were employed, the contractions of the muscles did not appear to be less powerful than those which arise from the stimulus of the will.

Experiment 2.—Sir B. Brodie removed the whole of the posterior part of the spinal marrow of a frog. The wound readily healed, but the hind legs became, of course, paralyzed. Five months afterwards, the muscles of the hind legs were found still capable of powerful contractions under the influence of the voltaic battery; at the end of six months more, the muscles still retained their contractile power. The frog was then killed. The wound was found completely cicatrized; there was not the smallest appearance of regeneration of that portion of the spinal marrow which had been destroyed.

I must add, that it appears somewhat strange to me ever to expect that animal matter should resist the effects of a power so intense as that employed by Sir B. Brodie. The contractile power of the muscles when subjected to the voltaic battery, I am disposed to consider irrespectively of the source of vitality and irritability.

The above experiments are cited on this occasion, not only because I consider them illustrative of the position of Hunter and other physiologists, as above explained, but in order to show, as particularly as I well can, the precise nature of the phenomena elicited by the experiments of Dr. M. Hall on the frog, as contrasted with the results obtained by myself.

From the preceding observations it will appear that the "*Formative Power*" of Blumenbach, or the *Materia Vitæ* of Hunter, or the *Solar Ganglion*, call it by what name we will, is no less universal than the animal organism itself; and there can be no doubt that, like the animal organism, it observes corresponding varieties and gradations of form. It could hardly be expected that the "*Formative Power*" of the dog is similar to that of the man; or that of the fish, of the reptile; and so on, through the whole of living things. The germ and its product must possess qualities common to both. It is impossible, perhaps, to demonstrate the *exterior* or physical characters of this "Formative power" in man or in animals, peculiar either to the same or to different species of each genus; yet is there an abundance of authority to show that such a specific difference must everywhere exist. The formative power, or the solar ganglion, regarded as the germ of all to be afterwards developed, may be said to represent, in common with the cerebral and other parts, in its successive changes in *utero*, its various and permanent conditions as they exist throughout the animal kingdom, beginning with the polypus, in which every vital action is conducted upon the smallest scale, by the least refined methods, and with the strictest economy of means; its apparatus being the simplest, the agents employed the fewest possible, and its various operations being carried on in one and the same place; proceeding in the mollusca, and in worms and insects, in which relations are exhibited to surrounding objects, and in which animals the senses and voluntary motion gradually make their appearance, the organic apparatus necessary to the exercise of these functions being superadded; ascending through fishes, reptiles, birds, and quadrupeds, in which the powers of sensation and motion become much more energetic, much more active, the internal life at the same time more and more developed, and the cerebral functions more and more numerous and diversified; and ending with *man* himself, in whom, as Blumenbach observes, the successive imposition of cerebral matter has reached its maximum; so that the summit of the nervous system, which corresponds with the forehead and vertex, is much larger in him than in any brute, and his intellect and moral feelings are proportionally greater.

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* Lawrence's Lectures, pp. 120, 121.

† Since the above remarks were penned, I have many times repeated the experiment of removing the viscera with the ganglionic system of nerves in the frog, and I have found much additional reason to form the conclusive opinion I have—viz., that the excito-motory phenomena demonstrated in the experiment of Dr. M. Hall, must have resulted only from the operation of retained nervous influence in the limbs of the animal, constituting an exception to the general rule, which goes to show, that, on the removal or destruction of the organic system of nerves, or ganglionic system, the functions of the brain and spinal cord as necessarily cease as do those of the other viscera. I have found, that, if the abdominal ganglia only be removed from the animal, the circulation and respiration, together with the *spinal* functions of the *superior* extremities, will be continued for a time, and much longer than contractions will exist in the heart after its separation from the body; proving, therefore, that the superior or thoracic ganglia have the power, in some degree, to "continue the same action which they receive" from the solar ganglion. Le Gallois cut a young rabbit transversely into halves, and because the strictly spinal functions ceased with the destruction of the cord in either half, he declared that the vital principle was seated in it. It is unnecessary to add, that the destruction of the cord by Le Gallois involved only the loss of *one* among the many indications or external signs of a vital principle.

Apropos, the comparative cerebral development of man and brutes is, as is well known, employed to mark the rank any one of either kind may hold in the scale of creation and intelligence; and very properly so; but it appears to me that the physiologist takes cognizance only of an *effect* on the development of the cerebral organism, which has resulted from the operation of a cause which he has hitherto failed to appreciate. Nothing can be more true than that "the higher we ascend, the more parts exist above the *medulla oblongata*, till, rising from fish and reptiles, through the numerous warm-blooded brutes—all distinguished by the relative magnitude of each cerebral part—we arrive at man," the "*summit of terrestrial objects;*" and it is equally true to my mind, that the successive increase of parts above the medulla oblongata is attributable to the operation of a preliminary cause—viz., the *Solar Ganglion, the source of all animal life, whether cerebral, spinal, or organic.* Surely if the ganglionic system be deemed either necessary or competent to preside over the vital actions necessary to the perfect development of the amyencephalous monster of Dr. M. Hall; if the secretion, nutrition, circulation, &c., as carried on in it, in virtue of the said ganglionic system, are sufficient for its growth and maturity, and for the perfectibility of its several organs, as the liver, spleen, heart, &c., and the consequent exercise of their functions, why should we doubt its powers to preside over the vital actions necessary to the entire fœtus? If the ganglionic system be sufficient to develop and mature a liver, a heart, and a spleen, and to excite them to the exercise of their appropriate functions in the animal economy, there is no reason why it should *not* do the same for the brain and spinal marrow. There is certainly much reason, as I trust has been shown, to feel satisfied that it does so; and that, moreover, to the modified operation of the solar ganglion must be referred all the varieties of life, psychical, and corporeal, which everywhere abound.

To proceed:—On tracing the animal organization from above downwards, we observe generally a gradual diminution or simplification of parts, and which in every case is proportionate to the wants and adaptations of the animal. The decreasing cerebral organism, for instance, marks the downward progress of the animal in the scale of intelligence and feeling. This is seen throughout the vertebrated animals, as the mammalia, birds, reptiles, and fishes. The insect tribes generally can hardly be said to have more than a mere rudimentary brain; they have certainly a medulla oblongata, in which the nerves of the external senses take their origin. The spinal system, so far is perfect in all its parts, and all the strictly vital functions are in full operation. In the annelida, however, we mark a very considerable falling off: the absence of everything like a brain, and of the external senses, leaves the animal to exercise only a strictly spinal and ganglionic existence. The excito-motory function, in itself, seems perfect, and like it, the organic functions appear on a par with those of the mollusca. The only advantage of the annelida is probably in its means of progression. One more step downwards, and the ordinary medusa is seen a mere mass of living gelatinous matter, without the least indication of even a spinal life, and nevertheless executing the organic functions of assimilation, digestion, secretion, circulation, nutrition, absorption, &c. This last step of the ladder constitutes the first of the intra-uterine life of the fœtus; and it may be said, that just so many steps as it takes the physiologist to trace the successive and organic changes from man to the medusa, the same are required to trace the fœtus through its various metamorphoses during its intra-uterine existence; and there can be no doubt, as has been before observed, that each diminution or addition of parts, both in man and animals, is but the visible effect of a corresponding variety and gradation of the *nisus formativus*, or the *solar ganglion*, the *germ* of all to be afterwards developed.

> "First chain of being, which from God began,
> Nature's ethereal, human, angel, man,
> Beast, bird, fish, insect, what no eye can see,
> No glass can reach, from infinite to thee :
> From thee to nothing." POPE.

It may be added that the possession of the *three* nervous systems in man and in the higher order of animals does not pre-suppose that those which have only *two* or even *one*, have been insufficiently provided for. The organism of the polypus and oyster is as nicely adapted to their wants and the circumstances which surround them, as is the organism of man.

In many instances among the lower classes of animals it appears that Nature has intended so to economize her means that one part shall serve the purposes of two or even more, and in others she has so concentrated her forces that it is really astonishing. The reproduction of lost parts in the lobster and crab, and many other crustacea; and the extraordinary activity of certain of the external senses in some animals higher in the scale of organization than the crustacea, almost make one doubt on which side to consider the advantages! A division of labour is generally regarded as indispensable to perfectibility, but among the lowest classes of animals we find the opposite principle in operation:—thus the solar ganglion in certain animals executes the functions of both the spinal cord and the cerebrum; for in the absence of the brain and spinal cord, it is occasionally seen that both sensation and voluntary motion exist in the zoophytes. In the manner in which the infusoria and actiniæ pursue their prey, and in their selection of it; in the facility with which they recede from whatever may prove hurtful to them, and turn aside when they encounter one another, together with the highly sensitive and irritable nature of the organism of the medasurise generally; "we can hardly fail," as Dr. Roget truly observes, "to recognise the evidence of voluntary action." Herein we get at the nature of animal *instinct*, and which, in the absence of everything like a cerebrum and spinal cord, must be regarded as a specific function of the ganglionic system. Dr. Roget says, in his chapter on the "Comparative Physiology of the Nervous System," page 538, "But whatever may be their extent, it is probable that the *sensorial operations* of the zoophytes take place without the intervention of any *common* centre of action," meaning thereby that the *sensorial operations*, so-called, are performed independently of a brain. The same may be said of the mollusca and articulata. There are times, moreover, when the *vertebral animals*, as fishes, reptiles, and birds, including the mammalia, and even *man*, perform actions of an instinctive and intellectual character, and that, too, *without the intervention of any common centre of action*. What is the course of that instinctive agency which determines the young among the several classes of animals above enumerated, including man, to seek each its particular means of support. In what originates the very keen *choice* which is displayed by all of them for that which nature has so especially predestined for their respective uses? What determines the peculiar habits and mode of life of any one of them? The immature condition of the brain in the infant being renders it perfectly impossible that it can exercise any, even the slightest, influence in the matter; and no one could venture to affirm that the spinal cord took any part in it. There can be no *reason* to doubt, but, on the other hand, every *reason* to feel assured, that to the same cause of the "*sensorial operations*" of the zoophytes, and of that peculiar instinct which enables the lower classes of animals generally to provide, not only for all the necessaries of life, but even to guard against contingencies and anticipate difficulties, whether they relate to the kind of habitation, the mode of progression, or to the kind of food required for their sustenance; in a word, to the same cause, the formative power or solar ganglion, which so beautifully adapts their individual habits, pursuits, and inclinations, to their peculiar organic conditions, and so providently harmonizes the natural laws, must also be referred whatever of *instinct* is, at any time, manifested in *man*, including the vertebrated animals.

The sudden and peculiar shrinking of the *hydra* when under the influence of fear, and the extreme caution and dexterity displayed by the infusory animalculæ in avoiding obstacles of any kind while swimming together in myriads in a single drop, are *instinctive* vital actions, arising from an inherent preservative principle derived from the solar ganglion, and similar in its nature to that which induces even us, in the *moment* of danger and doubt, to place our extended palm across the præcordia—thus the affected miss, though ignorant of physiology or pathology, and perhaps of all other *ologies*, if either alarmed, or professing to be so, at any sufficient or insufficient cause of personal danger, quickly applies her hand to the præcordia; as if the solar plexus screamed "*take care of me now*." What more reasonable than to expect that that organ, the sum of whose function may be in one word described as *life*, should preside over actions of the kind mentioned above, so *indispensable as they are to both its integrity and well being!*

The *instinctive* and *mental* (cerebral) faculties are occasionally seen acting in combination—*e. g.*, the martins which, in a spirit of retaliation and vindictiveness, built up the hole which had access to the nest that certain sparrows had robbed them of, and so buried alive the predatory occupiers in a grave of their own seeking, afford an instance of a clear and distinct process of thought, of cerebration. The original construction of the nest was instinctive or ganglionic, but the subsequent act certainly cerebral; whilst both were perhaps of a decidedly "*intellectual character*." Dr. Darwin tells the following anecdote:—"A wasp on a gravel walk had caught a fly nearly as large as itself. Kneeling upon the ground I observed him separate the tail and head from the body part, to which the wings were attached. He then took the body part in his paws, and rose about two feet from the ground with it: but a gentle breeze wafting the wings of the fly, turned him round in the air, and he settled again with his prey on the gravel. I then distinctly observed him cut off with his mouth, first one of the wings, and then the other, after which he flew away with it unmolested by the wind." Now, I take it that the mere pursuit and selection of the fly by the wasp as its prey was an act purely *instinctive*, whilst the clipping off of the wings under the circumstances narrated shows *it* to have been cerebral.

The constructive habits of the bee, as shown in the mathematical accuracy with which each cell of the honeycomb is formed, are certainly ganglionic or instinctive in their nature and origin; if the same structure had even been conceived and executed by man, it would have been an act of the brain, and an equal perfection of it could only have resulted from habit and experience. Similar observations will apply to the beaver, and not less so to many birds, &c. Such must be directly seen to be the legitimate and only conclusion, from the fact, that in some animals, without even a vestige of brain or spinal marrow, analogous phenomena are presented to our attention; the ganglionic system in them, as in the amyencephalous monster of Dr. M. Hall, is the only power of any kind they can command; they possess none other, and therefore must it be conceded, that the "sensorial operations," so called, are occasionally performed independently of a brain; and what is more, "the actions which are at one time instinctive, may at another spring from a different principle."[*]

CHAPTER II.

On the Physiological Uses of the Solar Ganglion, &c

In the earliest periods to which the history of man refers, we find that no question has more particularly interested the philosopher than that of Life. The wish to draw aside the veil from nature, to display the very essence of the vital properties, and to penetrate to their first causes, has ostensibly characterized the labours of many of the greatest men of both ancient and modern times. (*Vide* Lawrence, Lectures, p. 166.)

The investigation of the physiology of the nervous system, says Dr. Cooke, in his work on Nervous Diseases, seems to have been at all times a favourite study. We have some notices of it in the works of very ancient writers: Hippocrates, Plato, Aristotle, and others, have speculated upon this subject, though in obscure and confused language. By these early writers, the brain, the heart, and the blood were each successively claimed as the seat of life and sensation. Aristotle asserted that the heart is the organ *first formed*. Inasmuch as the philosophy of the ancients, especially Platonism, soared above, or, to speak more correctly, below the level of nature, (*vide* Serres on the "Laws of the Development of Organs, or Transcendental Anatomy applied to Physiology,") it became reserved for subsequent investigators to afford any real explanation of the vital phenomena, and their relation to the organism. Aristotle, in his "History of Animals," was the

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[+] "Instinct is an arbitrary connexion between certain internal feelings and the will to execute particular movements, which, in this case, do not proceed from imitation, habit, or the expectation of an advantage to be derived from them. The actions which are at one time instinctive, may, at another, spring from a different principle."—Mayo.

first, I believe, to give any degree of attention to the study of those organic forms so necessary to be understood as the groundwork of all physiological knowledge. To Aristotle succeeded Galen, whose work ("De usu Partium") must be, at the present day, considered as highly interesting and instructive. In reference to the labours of Aristotle and Galen, Serres observes:—"The method of Aristotle, essentially descriptive, neglected the function for the form; that of Galen, essentially rational, neglected the form for the function. The first of these methods carried in its train the descriptive sciences; the second led to the general sciences; the truth thus lay in their combination, and to *Haller* we owe the merit of first discovering this fact. He founded his arguments and opinions upon form and function combined; thus embracing in his method the descriptive as well as the general sciences."

Among the more modern investigators in the science of physiology Harvey no doubt stands second to none other. The discovery of the circulation of the blood, in point of importance and utility, can never be surpassed; and however much we may object to the physiological inferences which Harvey deduced from it, yet we cannot doubt the great claim of Harvey on our esteem and admiration.*

What very materially retarded the progress of physiological knowledge was the custom, until lately, of treating and considering the nervous system of man *en masse*—that is, without reference to its natural divisions. This is plainly seen to be the case, if we refer to the physiological writings of Gall, Le Gallois, or Bichât, also of Dr. Wilson Philip.

The brain, spinal cord and organic or ganglionic system of nerves, have each in the very able hands of these writers been rescued more or less from that chaos, perplexity, and doubt, with which their predecessors and contemporaries were accustomed to regard the organs and their respective functions in the animal economy.

The labours of the immortal Gall cannot be sufficiently commended. This great and illustrious philosopher has practically demonstrated the absurdities and chimeras of the metaphysical school. He it is who has given the death-blow to the visionary speculations of a Descartes, a Leibnitz, and a Malebranche; or, to speak of the present day, of a Chalmers, a Roget, a Copland, and of many like them.†

On his successors rest the responsibility of rescuing alike the criminal from perdition, and the legislator from shame. To the cerebral physiologist must the philanthropist look for the introduction of so improved a system of education as shall insure the use, and not the abuse, of the cerebral faculties in man. The unfortunate lunatic is safe only in his hands, because he alone can understand the nature of his disease, and thus be enabled to make choice of the necessary remedies. Cuvier acknowledged, that to Gall and Spurzheim we were, in his day, indebted for almost all we knew of the anatomy of the cerebro-spinal system. Gall was certainly the first to describe the spinal cord as an organ distinct from the brain, and to show that it did not arise from it, as was taught in the schools. (*Vide* Translation of Blumenbach's Physiology, p. 201.)

The labours of Le Gallois certainly contributed to advance our physiological knowledge of the spinal cord, although he, in so far as he erred not, to a great extent, it would seem, did but echo the previous discoveries of Gall. M. Le Gallois says, "If in a rabbit, which has been decapitated, but kept alive by pulmonary insufflation, the whole of the spinal marrow be destroyed by a stylet thrust through the whole vertebral canal, life will instantly and irrecoverably disappear, irritability alone remaining, which, we know, remains for some time after death. If, instead of decapitation, an opening be made in the vertebral canal near to the occiput, and by an instrument introduced through this opening the whole of the spinal marrow be destroyed, although the brain and its nervous communications with the trunk remain perfectly untouched, life will be instantly and irrecoverably destroyed in the trunk, the head alone remaining alive, as is apparent from its gapings."

It will be seen from the preceding extract, that the object of Le Gallois is to prove that the *spinal cord* is the seat of life, and not the *brain*; which organ, as Le Gallois truly observes, has been erroneously considered as the sole origin of the nervous power; and consequently the only *seat* of the principle of life. As regards the preceding experiments, they cannot, I think, be considered as favourable to the theory entertained. The possession of "*irritability*," by the decapitated and marrowless animal, assures me that the solar ganglion was still in the exercise of its peculiar function. What is the "*irritability*" of Haller, the "*motions without force*" which belong to the organism, but the property of the organic nervous system? The destruction of the spinal cord through its whole length in the second experiment, no doubt implicated the phrenic nerve; and if so, there is little wonder that the animal continued to gape, as the experimenter tells us it did.*

Le Gallois has, very evidently to me, considered the cessation of the excito-motory function as an indication of the complete suspension of all the vital phenomena.

To Bell and Hall we are not a little indebted for the more recent information we possess of the spinal cord and its functions; Mr. Grainger, too, must not be forgotten.

Bichât and Dr. Wilson Philip have together contributed largely to our knowledge of the vital or organic functions. It is certainly strange that the arrangement of the functions into classes—viz., the animal and the vital or organic—should have been deferred to so

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[*] Harvey maintained that the *blood* alone possessed *vital* properties, as did also Glisson and Albinus. I quite agree with Dr. Elliotson that *Moses* is no authority for such an opinion; and with him I feel surprised that Harvey should have quoted Moses. The passages, "for the life of the flesh is in the blood," "for it is the life of all flesh," "the blood of it is *for* the life thereof," only mean that, when it is withdrawn, life ceases; that it is necessary to the life of animals. "The construction," observe Dr. Elliotson, "which would make Moses assert that the blood is alive involves the absurd assertion that the blood only is alive."

[†] Nothing can be more interesting than to trace the progress of truth from the days of Bacon, Hobbes, Locke, and Condillac, all of whom advocated the dependency of the mental, or rather cerebral, impressions on the use of the external senses, in opposition to the doctrine of innate ideas, to those of Mirabeau, Priestley, Blumenbach, Magendie, Lawrence, and others of what is called the modern school of materialism, on to that era when Gall's discoveries illuminated this dull atmosphere of ours. The first class of writers named may be said to hold a similar relation to the second as the latter does to Gall and his school. The Reids, Stewarts, and Mills of the present day are, it is to be hoped, at a discount. Let them only seek *fact*, and not mere *words*, and farewell to metaphysics with all its dogmas.

[*] Since writing the above, I have performed the following experiment:—A free incision was made through the integuments immediately over the spine on the back of the animal; the extensor muscles were then dissected from their attachments, and the spinal column being thus exposed, its posterior parietes were removed to a sufficient extent to admit freely a moderate sized blow-pipe. The instrument was introduced near the middle of the dorsal spine, and passed upwards within the spinal canal, through the substance of the brain, to the anterior and interior part of the cranium. The *immediate* effects were a complete paralysis of the four extremities, the *posterior* as well as the anterior, and an *apparent* extinction of life; the *heart alone remaining alive, as was apparent from the gapings of the animal*, to use the expression of Le Gallois. It is now nearly three hours since the above experiment was performed, and *although no attempt at an artificial respiration has been made*, the heart is to be seen at this moment through the thoracic parietes, contracting as vigorously as in any other animal. The *gapings* ceased after about ten minutes. In the absence of the cerebro-spinal functions, the animal before me is in a condition precisely similar to the amyencephalous monster of Hall, or to the mere polypus.

The assertion long since made by Le Gallois that every part of the body derives its principle of vitality and irritability from that portion of the spinal marrow from which it receives its nerves, is satisfactorily negatived in the experiment recorded. In connexion, too, with the above experiment, we cannot fail to remark the strong evidence in favour of that opinion which makes the *heart's* action independent of the *brain*.

late a period. Bichât, with all his originality and acute reasoning, strangely erred, *not* in saying "that hitherto anatomists have considered the nervous system as an uniform system,"—such had been unfortunately too true,—but in adding "that the different branches of this system ought to be viewed as constituting TWO," and not THREE, "general systems, essentially distinct; the one having for its principal centre the brain and its dependencies," meaning, no doubt, the spinal cord; and the other, the ganglions.

The translator of Blumenbach's Physiology describes, in a note, the two classes of functions thus: "The *animal* functions prove us feeling, thinking, and willing beings: they are the actions of the senses which receive impressions; of the brain, which, perceives them, reflects upon them, and wills; of the voluntary muscles, which execute the will in regard to motion; and of the nerves, which are the agents of transmission. The brain is their central organ. The *vital* or *organic* functions are independent of mind, and give us simply the notion of life: they are, digestion, circulation, respiration, exhalation, absorption, secretion, nutrition, calorification. The heart," adds Dr. Elliotson, "is their central organ."

From what I can learn, it appears that Dr. Wilson Philip has explained himself very much more satisfactorily on the vital or organic functions, and the reciprocal relations between them and the brain and spinal cord, than Bichât has done, though neither the one nor the other has gone so far as he might have done. With the most extraordinary and convincing facts before them, I am not aware that physiologists have attempted to show much more than that the vital or organic functions are "certainly not dependent on the brain and spinal marrow *in the same degree* as the cerebro-spinal functions."* If I mistake not, there have been no writers who have directed their attention more successfully to the ganglionic system of nerves, and their functions, than Fletcher, Copland, and Breschet, excepting, of course, Dr. Stevens, whose paper published in the year 1842, gives much reason to expect yet better things. In them Bichât and Philip have found very able supporters. Dr. Copland's notes to his translation of Richerand's Physiology contain here and there very valuable remarks, physiological and pathological, on the vital or organic system of nerves. The same may be said of the articles *Fever* and *Hypochondriasis* in his very valuable and learned Medical Dictionary. But it is not enough to say that the ganglionic system of nerves, with the solar plexus for its central organ, presides over the functions necessary to life, as digestion, secretion, circulation, nutrition, &c., as if the brain and spinal cord, unlike the stomach, liver, heart, and alimentary canal, had an existence independently of the organic nerves. The functions of the brain and spinal cord must of necessity be regarded as *vital* functions. Life in man and the higher order of animals, consists, as Mr. Lawrence says, in the assemblage of *all* the functions; and if so, on what grounds dare we omit those of cerebration, and sensation, and motion? I shall hope to prove to the reader, that up to the present time physiologists have mistaken the cause for the effect; they have looked to the brain and spinal cord for the animating principle of the ganglionic system of nerves, instead of looking to the latter for the integrity of the former.

In enumerating the opinions of physiologists, I must not omit to mention those of Hunter and Lawrence. As may be expected of those eminent and learned surgeons, the question of the nature of *life* was too important and interesting to be passed silently by. Mr. Hunter's opinions may be best expressed in the words of Abernethy, contained in a letter to Dr. Cooke, and published in his "Nature and Uses of the Nervous System." Abernethy writes thus: "Mr. Hunter's illustration of his notions of life, by saying that it was superadded, as electricity and magnetism may be to substances in which they may inhere, was given in his lectures, and I have heard it from his own mouth. It made a strong impression upon my mind, because it did not affirm what electricity, magnetism, and life were, but only stated an analogy." Both Hunter and Abernethy strongly insisted on the importance of not confounding life with organization, as many did. Mere composition of matter, observes Hunter, does not give *life*, for the dead body has all the composition it ever had; nor do organization and life depend in the least on each other. Organization, he adds, may arise out of living parts, and produce action, but life can never rise out of, or depend upon, organization. An organ is a peculiar conformation of matter, let that matter be what it may, to answer some purpose, the operation of which is mechanical; but mere organization can do nothing even in mechanics; it must still have something corresponding to a living principle—namely, some power. This *living principle* Hunter recognised by the term "materia vitæ diffusa," and which Mr. Lawrence ridicules as a mere fancy, an idle speculation, and of no better repute than the "impetum faciens" of Hippocrates, the "archæus" of Van Helmont, or the "anima" of Stahl. In commenting on these definitions of a living principle, Mr. Lawrence observes: "Most of them have long lain in cold abstraction amongst the rubbish of past ages; and the more modern ones are hastening after their predecessors to the vault of all the Capulets." Mr. Lawrence's views of life I cannot think are more satisfactory than those of Hunter. At the same time that it is admitted that to call life a property of organization would be unmeaning, would be nonsense, he claims for the "primary or elementary animal substances" those vital properties which enable the compounded organs to carry on their several functions, which, he adds, being united in the individual, constitute *life*. Mr. Lawrence, therefore, literally makes life the property of the organism—just as gravity, elasticity, &c., are the physical properties of inorganic bodies. Mr. Lawrence, it is seen, has herein adopted the explanation offered by the German physiologist Reil,—in reply to whom Müller says: "It would follow, that if the elementary composition were alone the cause of the organic forces, it would be at the same time the formative principle itself. Now, since in organized bodies, immediately after death, the elementary composition of the organic matter does not appear to be different from that of bodies still living, Reil must admit the existence of other more subtile elements, not recognizable by chemical analysis, which are present in the living body, but are wanting after death."

In reference to this matter, Dr. Elliotson has these words: "As the fluids which form the embryo must be endowed with life, organization cannot be the cause of life; but in truth organization is the effect of life, although, when produced, it becomes an instrument of life. The erroneousness of the French doctrine, that "life is the result of organization," has "been ably refuted.' The error appears to have arisen, in some measure, from the want of definition, the word life being used, sometimes properly, for the power; sometimes improperly, for the result. Even if the result of life—the functions of a part—should be called its life, life could not be said to be the result of organization, but of a power to which organization is an instrument." Now both the organization and its functions may be said to be demonstrable to the senses, but the same cannot be said of the "*power* to which organization is an instrument," though neither its presence nor its seat can well be doubted. Granting, for the sake of argument, that the *solar ganglion* is the source or origin of this *power, or organizing principle, or creative force*,* which is exerted even on itself, and in every animal, strictly in accordance with what the nature of each requires, which exists already in the germ, and creates in it the essential parts of the future animal, and according to an eternal law, forms the different essential organs of the body, animates them, and modifies the already existing nervous system, as well as all the other organs in the laws of insects, during their transformation, causing the disappearance of several of the ganglia of the nervous cord, and the coalescence of others, and by its operation, during the transformation of the tadpole to the frog, causes the spinal marrow to shorten in proportion as the tail becomes atrophied. and the nerves of the extremities formed, &c.,—granting, I say, so much, it remains to show, if possible, the *ultimate cause* of this important part of the organism—from whence did it receive its being? It is not in the power of *man* to offer anything more than a very general reply to these queries.

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* Vide Müller's Physiology, by Baly, p. 208.

Mr. Lawrence observes, in his lectures on Life—"Having thus proceeded as far as we can in ascertaining the nature of life by the observation of its effects, we are naturally anxious to investigate its origin, to see how it is produced, and to inquire how it is communicated to the beings in which we find it. We endeavour, therefore, to observe living bodies in the moment of their formation, to watch the time when matter may be supposed to receive the stamp of life, and the inert mass to be quickened. Hitherto, however, physiologists have not been able to catch nature in the fact. Living bodies have never been observed otherwise than completely formed, enjoying already that vital force, and producing those internal movements, the first cause of which we are desirous of knowing. However minute and feeble the parts of an embryo may be, when we are first capable of perceiving them, they then enjoy a real life, and possess the germ of all the phenomena which that life may afterwards develop. These observations, extended to all the classes of living creatures, lead to this general fact, that there are none which have not heretofore formed part of others similar to themselves, from which they have been detached. All have participated in the existence of other living beings before they exercised the functions of life themselves."†

"Thus we find that the motion proper to living bodies, or, in one word, life, has its origin in that of their parents. From these parents they have received the vital impulse; and hence it is evident, that, in the present state of things, life proceeds only from life, and there exists no other but that, which has been transmitted from one living body to another, by an uninterrupted succession." If organism or the organized state be the result of the union of the organic creative powers and organic matter, it would seem plausible to infer that the first is supplied by the male animal, whether oviparous or viviparous, and the second by the female. The peculiar circumstances which, it may be presumed, attend this union, and the consequent development of the vital properties, will probably remain a mystery. It would, however, appear, that the first effort of the vital properties, whatever they may be, are directed towards the development of a central organ, the solar ganglion,* predestined to hold a precisely similar relation to the otherwise insensible and inert frame, to the dull and unmoving organism, as the vital fire to the animated statue of Prometheus.†

(*To be continued.*)

ON THE TREATMENT OF RHEUMATISM BY LEMON JUICE.

By G. Owen Rees, M.D.,

Assistant Physician to Guy's Hospital.

Although the treatment of rheumatic diseases by lemon-juice has received a considerable amount of favourable notice from the profession, I am still inclined to believe that it has scarcely gained the credit it deserves. This would appear to depend in some degree on its use in cases which experience has now shown me are but ill-adapted for its exhibition, and which are in all probability improperly placed by our pathology in the same category with those forms of the disease in which early benefit is derived from the administration of the remedy. There is much indeed in the history of those conditions designated rheumatic to lead us to hope, that as medical science advances, important distinctions will be made where none are as yet recognised.

From the experience I have now had in the use of the remedy, I feel I have sufficient evidence before me to justify the opinion, that there are certainly two forms of rheumatic disease which cannot be benefited by the administration of lemon-juice.

The first of these is generally observed in cachectic subjects, and for want of a better name I shall call it cachectic rheumatism. It occurs in all classes of life, but more commonly, I believe, among the lower orders. It is more frequent in females than in males. The swelling and redness of the parts affected are less marked than is generally the case in acutely painful rheumatism. The pain is, however, very severe, and occasionally partakes of the neuralgic character. The patient is sometimes anæmic, and on enquiry we may perhaps discover a history of long mental or physical suffering. The skin is perspirable; the pulse weak and rapid; the tongue varies, being sometimes moist and white, and sometimes clean and less moist than natural. In cases of this description I have not succeeded in relieving the patient by the exhibition of the juice; and if occasional relief has been obtained, the disease has shown a tendency to relapse, and become unmanageable under a continuance of the remedy. It may perhaps be well to mention, that in these cases I have derived the greatest benefit from the exhibition of opium in full doses at frequent intervals. The other form of rheumatism in which I have failed to obtain relief by the administration of the juice is that attendant on syphilis. In all the cases in which I have made trial of it among the female out-patients at Guy's Hospital, it has failed to exert any beneficial influence. The nature of the disease, so distinct from that of ordinary rheumatism, never indeed gave me any great hope of success. If we except the diseases above described, and cases simulating rheumatism, but really connected with ordinary dyspepsia, or, as is sometimes the case, with the existence of Bright's disease, my continued experience has but the more persuaded me of the great value of lemon juice as a remedy for rheumatism. Its action is sometimes most remarkable, causing cessation of pain and decrease of swelling and redness, such as we can rarely obtain with colchicum, even when administered in large and hazardous doses.—That lemon juice sometimes fails to effect this rapidly is certainly true, and that too with respect to cases apparently identical with those in which early benefit has been observed; but the history even of these less favourable instances will generally bear comparison with the results obtained by the ordinary plans of treatment; and it is my full conviction, that since lemon juice has been introduced at Guy's Hospital as a remedy for acute rheumatism, the period during which it has become necessary to confine patients so affected to bed has been very materially lessened.

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* Physiologists say *it has an existence independently of any special organ.* See Müller's Physiology, p. 26, et seq.

† This opinion, so confidently asserted by Mr. Lawrence, is more than likely to undergo very considerable modification, in consequence of the publication of the "*Vestiges of the Natural History of Creation*," wherein it is to my mind satisfactorily shown that *life* does NOT even now only proceed from *life*. The experiments of Messrs. Crosse and Weekes are conclusive, and clearly negative the contrary assumption so much insisted on. The appearance of the "*Vestiges, &c*," must be viewed as a great and glorious era in the world's progress. It marks the onward course of truth and of religion, untainted with that mean and despicable credulity with which the ignorant delusions of the fanatic, of whatever denomination, associate and degrade it. The character of the reviews which I have seen of this excellent and truly philosophical book bespeak too plainly so great a preponderance of the low, the animal propensities, that, it may be rightly inferred, the time is yet far distant when the constant and unfailing supremacy of the moral sentiments and the intellect shall find *man* in unison with that nature of which he is but a part, and so no longer deserve the censure of the poet, as conveyed in the few following lines:—

"Hath nature's soul,
That formed this world so beautiful, that spread
Earth's lap with plenty, and life's smallest cord
Strung to unchanging unison, that gave
The happy birds their dwelling in the grove,
That yielded to the wanderers of the deep
The lovely silence of the unfathomed main,
And filled the meanest worm that crawls in dust
With spirit, thought, and love; on man alone,
Partial in causeless malice, wantonly
Heaped ruin, vice, and slavery: his soul
Blasted with withering curses; placed afar
The meteor happiness, that shuns his grasp,
But serving on the frightful gulph to glare,
Rent wide beneath his footsteps?" SHELLEY.

* The reader is referred to the commencement of the first chapter, where he will find it stated that it is the opinions of Ackermann, Rolando, Blumenbach, and Gall, that the ganglia of the organic or ganglionic system of nerves are the first formed in the fœtus.

† See Lectures on the Study and Practice of Medicine, page 124, by John Conolly, M.D., late Professor of the Theory and Practice of Medicine at the London University, and Physician to the Middlesex County Lunatic Asylum, Hanwell, &c. &c.

I am anxious now to direct attention to a class of chronic rheumatic cases, in which I have used lemon juice with very great advantage. I allude to such as are connected with deposit of lithate of soda in and about the smaller joints, and which partake more or less of the gouty character. I have met with great success in this form of disease by the continued use of lemon juice in combination with small doses of the tincture of the sesquichloride of iron, and in several instances have effected absorption of deposits which have resisted all other plans of treatment. A case of the above description was lately reported to me, in which like success attended the administration of the lemon juice alone. The patient, a lady, had been a cripple for several years, and was eventually restored by persevering in the use of the remedy for six or eight weeks.

Lastly, with respect to the dose in which the juice ought to be administered. Experience has shown me that it should be larger than I was at first inclined to consider necessary. In acute rheumatism, from one to two ounces should be given every four or six hours; and should pain be felt in the bowels, or diarrhœa occur, which is very rarely the case, four or five minims of tincture of opium may be added to each dose of the remedy.

REPORT OF A CASE OF

HYPERTROPHY OF THE KIDNEYS IN A STILL-BORN INFANT.

By T. B. OLDFIELD, Esq., M.R.C.S.E. & L.S.A., Heckmondwike.

On the 11th of May last, I was summoned to attend Mrs. C——, aged twenty-six, in labour of her fourth child. On my arrival, I found, by examination *per vaginam*, the head commencing to press on the perinæum, and in about a quarter of an hour, the labour, which had been quite natural, terminated. The child, a full sized male, had the umbilical cord somewhat tightly entwined around its neck; it appeared to be in an apoplectic condition, with a rather purplish face, and incapable of breathing, no doubt in consequence of compression by the cord. The pulsation of the heart continued for some time; but although I allowed blood to flow from the divided vessels of the cord, and used the warm bath, along with artificial inflation of the lungs, respiration was never established.

Upon more minutely examining the child, I was struck with the extremely large size of the abdomen, especially on the right side. This I at first supposed to arise from some undue development of the liver; but on further manipulation, this conjecture proved incorrect, for I discovered two firm and solid bodies, occupying principally the lumbar regions, and which I at once decided were the kidneys, enormously enlarged.

After considerable reluctance on the part of the patient and her friends, I obtained permission to open the abdomen, when my opinion was verified, for both kidneys were found in a state of hypertrophy. The right one was removed, and it presented, externally, rather more irregularity than is usually observed. It was composed of numerous lobes, differing in size, and not so thoroughly commingled as is generally the case. The weight of the organ was eight ounces. The blood-vessels were larger than natural, and the investing capsule was denser. The left kidney presented the same appearance, it did not seem to differ, either in size or weight, from the right. The supra-renal capsule was in a normal condition.

The examination was necessarily brief, from the impatience of the lying-in-woman, and her attendants, which prevented me from taking a more minute account of this singular case. I am sorry that in this part of the country there is a great opposition to post-mortem examinations by all classes of society; and this is to be regretted, especially as it is densely populated, and many interesting cases are constantly occurring, which would doubtless furnish many important pathological specimens.

In conclusion, I may just mention that I had to treat my patient for a severe attack of nephritis during her pregnancy.

ON A NEWLY RECOGNISED PRINCIPLE IN THE INDUCTION OF ANÆSTHESIA, AND ON A NEW ANÆSTHETIC AGENT.

By T. CATTELL, M.D., M.R.C.S., &c., Braunston.

From the channel through which a state of anæsthesia is induced, two important points for consideration are presented to our notice. 1. The character of certain chemical compounds when in an aëriform or gaseous state. 2. Their chemico-physiological relation in this state to the respiratory functions.

It is on the discovery of more important data on this head that confidence in the use of anæsthetic agents will continue.

So far as my investigations have extended, I think I am right in deducing the principle—*that no anæsthetic agent should be allowed ingress to the lungs of a higher specific gravity than the air we breathe*—a principle which will offer a greater safeguard against the occurrence of dangerous and anomalous symptoms than any yet propounded.

The construction of a peculiar apparatus is necessary to enable this principle satisfactorily to be carried into operation—an arrangement which will permit the specific gravity of the vapour being lowered to the standard in question and uniformly maintained during the process of inhalation, which will allow of such vapour being inhaled directly intermixed with a given proportion of free oxygen, or in connexion with another compartment containing it.

I am experimentalizing with *chloro-benzoide* as an anæsthetic agent. I shall present the subject to the notice of the profession at my earliest convenience.

ON A CASE OF HEMIPLEGIA, WITH CEREBRAL SOFTENING, AND IN WHICH LOSS OF SPEECH WAS A PROMINENT SYMPTOM.

WITH PHYSIOLOGICAL REMARKS.

By Robert Dunn, Esq., M.R.C.S., London.

The psychological phenomena of disease present a wide and an interesting field for observation and inquiry; and it is, I think, greatly to be regretted that the subject has not more fully engaged the attention of those distinguished men to whom we are so much indebted, and to none more than a former president of the Medico-Chirurgical Society, my friend, Dr. Bright, for their valuable researches into the pathology of the brain. As the seat of conscious existence, and of human feelings and emotions—of all our hopes and fears, our joys and sorrows, and of the higher attributes of intellect and reason, the *mind*, it is admitted, ought to be studied in connection with the material conditions of the encephalon, through which its operations and workings are manifested, in health and disease. Hence the necessity and the importance of noting and of studying the psychological manifestations or symptoms as they present themselves, especially in diseases of the brain and nervous system. The attempt to trace the connection between structural diseases of particular portions of the encephalon, and of deranged, impaired, or obliterated manifestations of the mind, is clearly one which comes legitimately within the province of the medical observer, however great the difficulties by which the endeavour may be surrounded; but in private practice the opportunities for such investigations are very limited, and I am aware how prone we are, when the experience is limited, to attach undue importance to individual cases. It is therefore not without some hesitation that I have submitted the following detail and observations to the consideration of the Society.

The subject of this communication died in a state of coma, on the 18th of last April, in the sixty-sixth year of her age. She was of a mixed temperament, the sanguineous and nervous, of active and industrious habits, an even temper, and happy disposition, and much beloved by her children and friends. Her education had been limited.

I was first called to attend her on the 6th of October, 1844, at four o'clock in the morning, in her first apoplectic seizure. Up to that time she had enjoyed excellent health, but she had retired to bed, the evening before, rather more than ordinarily fatigued, in consequence of the indisposition of one of her daughters. She slept with the invalid. A little before four o'clock in the morning, the daughter was awaked by a strange noise her mother was making, and I was immediately sent for. I found her in a state of coma, with stertorous breathing, head hot, face flushed and turgid, mouth drawn down to one side, pulse full and labouring. I bled her freely from the arm, gave five grains of calomel, and a strong cathartic draught, and applied a cold lotion to the head. At my next visit, about four hours afterwards, she had partially recovered consciousness, but I found her hemiplegic on the right side. A blister was applied to the nape of the neck, and a grain of calomel ordered to be given every four hours, with a dose of saline mixture.

Her recovery was quick; she regained the free and full use of the arm and leg; and in a few months her general health appeared to be perfectly re-established. One peculiarity, however, remained—the habit of using one word for another, and of not applying appropriate names to the things signified. She never afterwards called even her own daughters by their right names. She had recovered so soon, and so perfectly, that I was inclined to view the attack as one of simple or congestive apoplexy; but the peculiarity in respect to verbal language arrested my attention, and led me to fear the existence of some structural lesion of the encephalon.

From this time her health continued good, and she discharged all the household and relative duties of life as usual, with pleasure to herself and family, up to the period of her second attack, which took place on the 17th of May, 1847. Her daughter found her, between eight and nine o'clock in the morning of that day, lying in a state of insensibility, on her back, upon the floor of her bedroom. She had opened the window-shutters of the bed-room, removed the bed-clothes, and whilst in the act, it was supposed, of making the bed, had fallen down in a fit on the floor. I was immediately summoned. The contrast was striking between the symptoms in this and those of the former seizure. The coma was alike profound in both, but there was little, if any, stertor in the breathing. Instead of the hot and flushed face, it was pale, and bedewed with a cold, clammy moisture; the extremities were cold, and the pulse, instead of being full and labouring, was feeble, weak, and fluttering. An opposite treatment was clearly indicated. I gave her freely ammonia and Hoffman's anodyne; applied warmth to the surface of the body, and cataplasms of mustard to the soles of the feet and nape of the neck. A turpentine enema was administered. She gradually recovered her consciousness, but was speechless for the remainder of her life. In a few hours from the time of the attack she could be roused when loudly spoken to, but immediately relapsed into insensibility.

She was again, and for the remainder of her life, hemiplegic, on the right side, completely, as to motion, but some sensation remained; there was no muscular rigidity whatever. Active reflex movements were exerted, by tickling the foot, but none could be induced in the upper extremity.

On the fourth day from the time of the attack, I had the benefit of consultation on her case, with my friend, Dr. Todd. By that time she had acquired a little more consciousness, but she was extremely low, and her pulse was feeble. She yawned a great deal, and often applied her hand to her left temple, as if in pain there. The fæces were passed involuntarily.

Dr. Todd thought her case presented a fitting opportunity for testing the muscular irritability in hemiplegia, and, having assisted him in making the experiments, I can vouch for the correctness of the following account, given in his paper on "the muscular irritability of paralyzed muscles," in vol. xxx. of the Society's *Transactions*.

The hands, and afterwards the feet, were placed in basins of water. I first used a Cruickshank's battery, of fifty plates, but without effect, on either limb. I then had recourse to the magneto-electric rotation machine; by this active movements were excited in the healthy arm and leg, some in the palsied leg, and very slight and feeble contractions in the palsied arm. On applying the poles directly to the palsied limbs, contractions were excited, but even these were extremely feeble and partial.

On the 26th of May, five days afterwards, I repeated the experiment. The patient had acquired rather more consciousness and strength, but the palsied limbs were apparently unchanged. When the current was passed through both arms, by means of basins, only one of the two muscles of the paralyzed arm were feebly excited, whereas the sound one was thrown into energetic action. The same results precisely were observed in the legs.*

The improvement in her general health after this attack was very slow, but progressive, and ultimately she got remarkably well. But she was paralyzed on the right side, and speechless. In the upper extremity, the hemiplegia, in respect both to motion and sensation, was complete; in the lower, the sense of feeling was not altogether abolished, and there apparently remained some slight power of motion. She was able, with the assistance of her daughter, to move about the room. The arm was generally kept in a flexed position; the muscles were slightly rigid; the fingers were bent inwards upon the hand, and it was with some difficulty that they could be straightened. Although speechless for the remainder of her life, all the special senses were intact,—she could see and hear, smell and taste; the motions of the tongue were free, and there was no difficulty in deglutition. She was perfectly sensible, took an interest in passing events, more especially in anything appertaining to her family and friends; her emotional excitability, indeed, appeared rather to be increased. She had never been much interested in books, and latterly less so than formerly, but it had been her daily practice throughout life to read a chapter in the Bible every morning, and she never relinquished the habit.

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* Medico-Chirurgical Transactions, vol. xxx., p. 215-16.

In reply to a simple question she could not say *yes* or *no*, and never could get beyond the utterance of the monosyllable, *dal-dal*, while the conscious failure of the effort found expression in a hopeless shake of the head, and often in the exhibition of emotional feeling and a gush of tears. Still with the exception of the paralysis and loss of speech, her general health, latterly, was good, and she was cheerful and happy. Her appetite was excellent, and she had become stouter. Seated in the family circle, and surrounded by her children, she looked so well and was so happy, that no one would have taken her to be an invalid, but the illusion vanished with the effort at locomotion, or the attempt to mould into expression, and to convey by words to the minds of others the thoughts that were passing in her own.

The last and fatal seizure was as sudden as the two former had been. On the 14th of last April, as she was being undressed at about ten o'clock in the evening, she fell suddenly back in a fit, in her chair, and for a short time the paralyzed arm and leg shook violently. With some difficulty she was lifted into bed in a state of insensibility and utter helplessness. I was sent for. I found her, as at the second attack, in a state of great collapse, and comatose, with loud stertor, and with her left side as helpless as her right, completely paralyzed, passive and powerless. The pulse was small, weak, and fluttering; the whole surface of the body, as well as the extremities, were cold and clammy. In the right palsied arm and leg were noticed occasional convulsive jerks, but none in the left. Tickling the sole of the right foot excited active reflex movements, but the same means produced no effect on the left. The sphincter ani was relaxed. The teeth were so firmly fixed that nothing could be got into the mouth. Warmth was applied to the surface of the body and to the feet. A turpentine enema was thrown up and a blister applied to the nape of the neck, but I need scarcely say, without any good effect. She gradually became weaker, and expired quietly on the 18th, the fourth day from the attack.

Post-mortem examination, twenty-eight hours afterwards.—On carefully raising the calvarium, leaving the dura mater *in situ*, the sinuses were found gorged with dark, black blood, and I was struck with the want of symmetry between the hemispheres of the brain. The left on its anterior and upper surface was much *depressed* and *shrunken*, and on applying the finger to the depressed portion, a distinct fluctuation was felt beneath the membrane. This was found to arise, on the removal of the dura mater, from the presence of serous effusion into the arachnoid sac, to the extent of several ounces; the other membranes were opaque and thickened. The right hemisphere presented nothing abnormal in its appearance, and on carefully slicing down its substance to the level of the corpus callosum, the structure throughout was healthy. When its lateral ventricle was laid open, a very small and recent apoplectic clot was seen upon the upper and anterior surface of the corpus striatum, surrounded on all sides by a red streaky extravasation into the broken-down tissue of the striated body. The whole of its upper half was in a state of ramollissement, and on the outer surface also of the thalamus opticus were noticed some indications of white softening. Of the left hemisphere the upper two-thirds of the anterior lobe was a pulpy mass, *in a state of complete destruction, with colourless softening*, while the middle and posterior lobes were sound and healthy. The corpus callosum was destroyed, except at its anterior and inferior reflexion, and so also was the upper half of the corpus striatum on the left side. The optic thalamus was shrunken to less than half its natural size, its upper surface being greatly wasted. The anterior commissure and fornix were gone, but the corpora geniculata were sound and healthy. It was only the lower plane of the left anterior lobe and of corpus striatum which maintained their integrity. There was some serous effusion into the ventricles, and at the basis of the skull.

I had the advantage of Dr. Todd's assistance in investigating the diseased parts, and a microscopic examination showed an abundance of compound cells in the softened portions, and of capillaries filled with fat. The small branches of the middle artery were faulty in structure. The cerebellum, basis of the brain, medulla oblongata, and the whole of the sensory ganglia, were in a healthy state.

The case affords a good illustration of the varying character of apoplectic seizures, and offers some points of physiological interest, in reference to the faculty of speech.

The first fit presents us with a common form of the disease, and from which the recovery was so perfect, that but for the peculiarity which remained, in respect to verbal language, I was at the time disposed, as I have observed, to view it in the light of a case of simple or congestive apoplexy. It is not to be denied that such cases do occur, and in them the paralysis is transient, disappearing with the removal of the pressure; but they are, I am inclined to think, far less frequent than is generally supposed. When the paralysis is at all persistent, I believe it to be associated with a rupture in the continuity of the fibrous structure of the brain. This is not a mere hypothetical opinion.

I have had several opportunities of examining patients that have died of other diseases, who have previously had apoplectic seizures, but with whom all traces of paralysis had disappeared, and at periods varying from months to years from the time of the paralytic stroke, and in every case I have found cysts, or other evidences of structural lesion. The severity and duration of the paralysis are no doubt dependent upon the extent and the situation of the extravasation; and as a matter of actual observation, I quite agree with Dr. Bright, and other observers, "that effusions take place more frequently than in any other situation, at a little to the outside of the corpus striatum in either hemisphere, just at the point where many large vessels may be traced coming off from the trunks in the fossa Sylvii, and pervading the brain."* In the present instance, from the appearances observed at the post mortem inspection, the degeneration of the anterior lobe of the left hemisphere, the wasted and shrunken condition of the corpus striatum and thalamus opticus, on the same side, and the faulty state of the small vessels in the fissura Sylvii, it is reasonable to infer that the symptoms were not due to mere congestion, but that some extravasation, however slight and limited at the time, had taken place, and which in all probability, by an arrest of nutrition, laid the foundation for the subsequent and more serious affection.

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* Dr. Bright's Hospital Reports—Diseases of the Brain and Nervous System, vol. ii. p. 331.

In the second fit, as well as in the last fatal attack, we have examples of that second form of apoplexy, which Dr. Abercrombie has so graphically described. And while the actual pathological condition, at the time of the second seizure, is veiled in obscurity, the fatal issue of the third, and the hemiplegia of the left side which preceded it, were evidently due to the rupture and clot in the right corpus striatum.

In respect to the second fit, although there was no evidence found at the post-mortem inspection, of apoplectic cysts, the whole of the upper two-thirds of the anterior lobe being in a state of softened degeneration, still it is not improbable that this condition was due as a consequence to previous extravasation into its substance. But be that as it may, the diseased appearances afford a satisfactory explanation of the paralysis, and if I am not mistaken, throw some light on the cause of the loss of speech.

The loss of the power of articulation may arise from a variety of causes, independently of cerebral lesion; but these are foreign to our present consideration, for in this instance it is abundantly manifest, that the cause of the loss of speech was of cerebral origin, implicating the encephalic motor centres, through which the volitional power is exercised.

A great mass of evidence has been collected in support of the opinion of Gall, that the seat of the faculty of speech is in the anterior lobes of the cerebrum.

In 1848, two memoirs were read before the Académie Nationale de Médecine de Paris—one by M. Belhomme, "De la Localisation de la Parole dans les Lobes Antérieurs du Cerveau;" and the other, by M. Bouillaud, entitled "Nouvelles Récherches Cliniques Propres à demontrer que le sens du Langage Articulé et le Principe co-ordinateur des Mouvements de la Parole Resident dans les Lobules Antérieurs du Cerveau," containing new observations made by him since the date of his former paper, in 1839.

The subject has undergone much discussion in France, and opposing evidence has been adduced. Andral[*] gives the particulars of two cases—one in which loss of speech was the only cephalic symptom, and another, where it was complicated with hemiplegia of the right side, but the intellect was unaffected. They were both in old women—the first eighty, and the other seventy-three years of age. In the first case, the speech was lost all at once, but not in a fit, three years before her death. She was never known to have lost her consciousness, nor the power of sensation or motion. Andral says—"Tout semblait nous annoncer que l'intelligence avait son integrité. Dans les quatre membres, les mouvemens etaient libres, faciles, et la malade sentait bien les impressions douleureuses qu'on cherchait à faire naître sur la peau qui les recouvre. Lorsqu'on lui demandait si elle souffrait de la tête, ou si elle en avait souffert, elle repondait par un geste negatif. L'ouïe, la vue, et l'odorat, s'accomplissaient comme dans l'etat normal." At the autopsy, in the left hemisphere there was found a small ramollissement, of the size of a large pea—"Au niveau et en dehors de l'extremité posterieure du corps strié tout-a-fait à sa pointe;" and in the right hemisphere a similar ramollissement—"A l'union de la moitié antérieure avec la moitié postérieure de cet hémisphère, à une égale distance de ces bords interne et externe, et au point de jonction des deux tiers supérieurs avec le tiers inférieur de la masse nerveuse située du centre ovale de Vieussens." These were the only cerebral lesions. In the second case—"Dans tout l'encephale, il n'y a d'altéré que le corps strié du côté gauche." It was a soft, pulpy mass to within three lines of its exterior surface. Andral observes: "Le siége du ramollissement est digne de remarque; il est exactement borné à l'un des corps striés, ce qui n'empêche pas qu'il n'y ait paralysie des deux membres et abolition de la faculté de parler." Other cases have been recorded, in which the structural lesion was confined to the corpora striata, and a few in which the middle and posterior lobes were implicated in the disease of the striated bodies.

Now, in the consideration of this subject, it is never to be forgotten, that the perfect power of speech, that is, the power of giving utterance to our thoughts and ideas in suitable and appropriate language, *depends upon the due relation between the centres of intellectual action, and of the encephalic motor centres, through which the volitional power is exercised.* Thoughts or ideas may be moulded for expression in the seat of intellectual action, but the due agency of the volitional power, to give them utterance, requires the integrity of the commissural fibres, and of the motor centres, through which the volitional impulses of thought operate in speech. The imperfect power of articulation which we so constantly meet with, in hemiplegic patients, I have no doubt is owing to some structural lesion in the integrity of the motor centre of volition.

A highly interesting and instructive case, bearing upon this point, came under my own observation, a few years ago. It was that of a young woman, in whom there existed, for many months, a suspension of the mental faculties, power of speech and special senses, with the exception of sight and touch, in consequence of her having accidentally fallen into a river, and been nearly drowned. An account of the case was published in THE LANCET of 1846. When I first saw her, on her being brought home, about three weeks after the accident, her only medium of communication with the external world was through the senses of sight and touch, for she could neither hear nor speak, smell nor taste. Her mental faculties appeared to be entirely suspended, there being for some time no evidence that any ideas were aroused by the sensations she received, although respondent movements of various kinds were excited through them. Thus, her vision at short distances was quick, and so great was the state of exaltation of the general sensibility upon the surface of the body, that the slightest touch would startle her; still, unless she was touched, or an object or person was so placed that she could not avoid seeing the one or the other, she appeared to be quite lost to everything that was passing around her. She had no notion that she was at home, nor the least knowledge of anything about her: she did not even know her own mother, who attended upon her with the most unwearied assiduity and kindness. Her memory and the power of forming and associating ideas were quite gone. Wherever she was placed, there she remained throughout the day. She was very weak, but her bodily health was not much deranged; the tongue was clean, the skin moist, and the pulse quiet and regular; but the bowels were sluggish." After a lapse of three months, an incident occurred in the family which roused her sensibility, and suddenly brought into play the suspended power of articulating words, *but not the perfect power of speech.* Seeing her mother in a state of excessive agitation and grief, she became excited herself, and, in the emotional paroxysm of the moment, she gave utterance, by ejaculating, Wh-a-t's the mat-ter? From this time, she began to articulate a few words, but she never called things by their right names. The pronoun *this* was her favourite word, and it was alike applied to every individual object, animate or inanimate; and, so long as *the intellectual centre was in an abnormal condition, the perfect power of speech was in abeyance.*

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[*] Clinique Médicale—Maladies de l'Encephale, vol. v. p. 454.

Nine months afterwards, under sudden and overwhelming emotional excitement, she fell down in a fit of insensibility of many hours' duration, but which proved critical and sanatory. She awoke in the possession of her natural faculties and former knowledge, but without the slightest recollection of anything that had taken place during the interval of the twelve months that her faculties had been suspended.

It is admitted that there is no point in physiology more clearly made out than that the cerebral or great hemispherical ganglia—that vast sheet of vascular matter which crowns the convoluted surface of the cerebral lobes—is the centre of intellectual action, of perception, volition, and of all the intellectual operations and processes; and my own mind rests in the conviction, that the amount of pathological and other evidence which has been amassed irresistibly establishes the position of Gall, that in speech *the power to frame the thought and mould it for expression has its seat in the anterior lobes of the cerebrum.* I hold it to be as indisputably established, that the corpora striata are the *motor centres of the volitional power* of the encephalon. They are not the seat of volition itself, for that is an attribute of the intellect, but the motor centres through which the volitional impulses of the cerebral hemispheres operate —*the connecting link of thought with action.* Their commissural connexion with the centre of intellectual action, the great hemispherical ganglia, is so intimate and so extensive, that they are evidently subservient, at all points, through the agency of innumerable radiating commissural fibres, to the mandates of the will, or volitional power of the hemispheres on all occasions, and in every voluntary act or effort; and hence does it not necessarily follow that loss of speech or power of utterance will alike result from *disease of the anterior lobes, or of such parts of the corpora striata as are in direct relation with them?*

There is not, I believe, a single instance on record in which the power of utterance was retained *intact*, however sound and healthy the great hemispherical ganglia may have been found, where the corpora striata were both diseased. The apparently conflicting evidence which has been adduced as to the seat of the faculty of speech admits of a satisfactory explanation, when thus considered in relation to the centres of intellectual action and motor centres of volition.

In the present case, which I have narrated, it is quite evident that with the disorganization of the left anterior lobe its functional power was entirely abolished; and though the right hemisphere was healthy, and there is every evidence, from the history of the case, that it maintained and exercised its functional power as a centre of intellectual action, still the volitional agency was wanting to give utterance to the passing thought, for the corpus striatum was not in its integrity.

The condition of the irritability of the muscles of paralyzed limbs being still, I believe, an unsettled question with my friends Dr. Marshall Hall and Dr Todd, it is to me a matter of regret that the subject had not been put to the test of *another* experiment in the case of this patient, especially as the paralyzed limbs had not wasted, but in their nutritive condition had latterly improved. There can be no doubt, in respect to the question at issue, that both experimenters have with perfect truth recorded the result of their experiments, and the discrepancy has, I think, been satisfactorily explained. They are alike anxious to promulgate sound physiological views, and to furnish us with new and useful aids in diagnosis. To Dr. Marshall Hall, indeed, in his capacity alone of expounder of the *doctrine of reflex action*, and of its practical application in the elucidation of symptoms, and to therapeutics, every enlightened practitioner is under great obligations; still, on the subject of muscular contractility, though with great deference, I dissent from his views. I think that the late Dr. Reid, in his memoir "On the Relation between Muscular Contractility and the Nervous System," has fully established the fact, that *muscular irritability is a special vital endowment of the tissue itself*, and not dependent upon, or derived from, the spinal cord;—in truth, that the *vis insita* of Haller is an inherent vital property, and perfectly independent of the *vis nervosa*, though generally called into action through its instrumentality. He has shown that this *vis insita*, like all other vital properties, depends for the energy of its action upon its state of nutrition, and this, again, in its turn, is regulated, *cæteris paribus*, by the degree of exercise to which the muscles are subjected.

Dr. Reid has experimentally proved—1st. "If muscles, separated from their connexions with nerves, be kept in a state of occasional use, (by the application of artificial stimuli,) their nutrition is kept up, and their contractility retained for any length of time; and 2ndly. If the contractility of a muscle thus circumstanced be exhausted by repeated stimulation, it will be recovered after an interval of some days after section of the nerves." Now, it appears to me, that, as in the case of *exhaustion* after excessive fatigue, time and rest are required *for nutrition* to restore and replenish the contractile power, the *vis insita* of the muscles, so in the case of a paralytic attack, after the shock which the whole system has sustained, the degree to which the irritability of the muscles in the palsied limb may be deranged, and the condition in which they may afterwards remain, will essentially depend upon the state of *the nutrition* in these muscles themselves.

REPORT OF A CASE OF EXTIRPATION OF THE SUPERIOR MAXILLARY BONE.

By Charles Trenerry, Esq., M.R.C.S. Eng.

Assistant-Surgeon to the Civil Hospital, Gibraltar.

July 17th, 1850, Jose Aguilera, aged twenty, a young Spaniard, presented himself at the Civil Hospital, to have a moderate-sized tumour removed from the outer part of the right superior maxilla. I excised the disease without difficulty, but could not suppress the hæmorrhage that ensued for nearly two hours, and then only with the actual cautery.

A few days afterwards the disease appeared again, having rapidly increased in size, and dislodged the two last molares, encroaching on the palatine arch, interfering materially with mastication, and occasionally bleeding copiously. In a consultation with Drs. Rey, Mery, Dias, Patron, Danilovich, Surgeon Mathew, (67th Regt.,) Staff-Surgeon O'Flaherty and Dr. Horniblow, of the staff, the disease was considered of a formidable character, and the only prospect of a radical cure would be the extirpation of the bone.

The danger and difficulty of the operation being represented to the patient, (and his mother, who accompanied him,) he said he was quite ready to submit to anything, and the sooner the better, as he had already been subjected to a variety of remedies without avail.

August 31st.—Soon after twelve o'clock at noon I removed the right malar and superior maxillary bone, being assisted by Drs. Rey, Patron, and Surgeon Mathew, (67th Regt.,) in the presence of Drs. Ryan, (56th Regt.,) Deeble, Assistant-Surgeon, (56th Regt.,) Duff, Assistant-Surgeon, (67th Regt.,) Staff-Surgeon O'Flaherty, and Dr. Horniblow, Staff; Drs. Mery, Dias, Danilovich, Cortes, Stokes, Baggetto, and other visitors.

The patient being seated in a stout arm-chair, I removed the right central incisor tooth, then made an incision from the outer angle of the eye down through the cheek and lip opposite the canine tooth, another over the zygoma to meet the first, and a third from the inner canthus of the eye, down by the side of the nose, so as to detach the ala nasi from the bone and divide the upper lip in the median line. The hæmorrhage during this stage was very profuse, although Mr. Mathew kept it much in check by compressing the carotid artery; the flap thus formed was quickly dissected up close to the bone, and the floor of the orbit cleared with the handle of the scalpel. The patient now became faint, but soon recovered on taking some warm wine, and inhaling a little ammonia. Some of the attachments of the masseter being separated from the zygoma, I proceeded, with a strong pair of Liston's cutting forceps, (kindly lent me by Dr. O'Flaherty,) to divide the zygomatic and orbital processes of the malar bone; the nasal process and the alveolar and palatine arch of the superior maxilla in the mesian line, having previously cut through the mucous membrane in the mesian line of the roof of the mouth, and opposite the junction of the palatine plates of the maxilla and palate bones, Dr. Rey having held the flap, and protected the globe of the eye. Then with a pair of tooth forceps I drew upon the malar bone, which unexpectedly came away first, with a portion of the body of the maxilla, and afterwards the maxilla with the tumour attached thereto.

A small artery, the infra-orbitar, at the bottom of the wound, required ligature, as also the superior coronary artery of the lip; he was now laid on a couch, the wound carefully cleaned, and a piece of the infra-orbitar nerve removed as it was hanging in the wound; the cavity being filled with charpie, the edges were brought together, with interrupted and hare-lip sutures; some wine was given, and as he seemed exhausted, he was placed in bed.

He lost from sixteen to twenty ounces of blood, and bore the operation, which occupied about twenty minutes, or, together with the dressing, nearly an hour, with surprising fortitude.

The tumour proved to be of a hard, fibrous nature; it extended backwards beyond the tuberosity of the maxilla into the spheno-maxillary fossa, forwards to the first cuspidatus; inwards, nearly to the mesian line, and filling the alveolar cavities of the two last molares; upwards, to the antrum, having produced absorption of a portion of the floor of the antrum, and a considerable portion of the body of the maxilla, hence accounting for the unexpected separation of the malar, as before stated; in fact, the tumour seems to have proceeded by a narrow base from the under surface of the membrane lining the floor of the antrum.—Ten P.M.: The blood, which had been oozing for about six hours, has completely stopped. There is slight heat of skin; right side of face swollen and glossy; some pain in abdomen; pulse 120, but compressible. Apply cold water dressings to the face. An enema, containing twenty minims of tincture of opium, directly; and afterwards to take acetate of morphia, half a grain.

Sept. 1st.—Six A.M.: Has passed a quiet night; face looks better; pulse 110.—Two P.M.: Some tumefaction and tendency to erysipelas at the wound near the nose; a bad smell proceeding from the mouth; pulse 96; skin cool; no thirst. I removed some charpie from the mouth, and three sutures from the nose, and applied some adhesive plaster; the wounds are united. A solution of acetate of lead to the face; mouth to be washed with a lotion of chloride of soda.—Seven P.M.: Lower lid œdematous, and lower lip swollen; in other respects is doing well. Repeat acetate of morphia, half a grain, at bed-time.—Eleven P.M.: Has had some sleep, and feels pretty well; pulse 98.

2d.—Seven A.M.: Passed a very good night. Eyelid more swollen, and tumefaction of face increased; skin cool; pulse 96; bowels have not been opened. Common enema.—Two P.M.: Has been much incommoded by some threads of charpie getting into the larynx. I removed a great portion of the charpie from the mouth, as also the remaining sutures, as they were cutting their way, owing to the swelling of the face.—Ten P.M.: Eye is quite closed from the swollen state of the lids; tumefaction of face subsiding; skin cool; pulse 80. To have some sago. Repeat morphia.

3rd.—Passed a very good night, but in other respects is much the same as at last report.

From this time he improved rapidly; on the 6th, he walked about his room; and on the 12th, he began to take daily exercise in the hospital grounds, and was able to eat forced-meat balls, boiled eggs, semola-puddings, &c.

Oct. 6th.—This day the patient was discharged, with little or no deformity.

Gibraltar, 1850.

ON A CASE OF COMPOUND DISLOCATION OF THE ANKLE.

By Joseph G. Thompson, Esq., M.R.C.S., Launceston.

J. M——, aged thirty-one, is the wife of the waiter at an inn, a handsome, well-proportioned woman, of sanguineo-nervous temperament, and hysterical tendency, and enjoying, for the most part, tolerable health. On the 22nd of December, 1849, between three and four o'clock, the mail-coach, in passing around a corner struck against a large wooden crate of turnips, and upset it with great force upon her left leg. The blow lighted just above the ankle, on the inner side, and drove the crural bones through the outer skin and the boot against the ground.

On examination there was found a transverse wound, about four inches in length, across the outer ankle, and through it the tibia and fibula protruding. The foot being inverted to a right angle, completely opened the joint, so that all the articulating surfaces were exposed, except the inner side-face of the tibia. From the outer side-face, a small piece of bone was chipped off, and the end of the outer malleolus was bruised. The soft parts were, of course, much lacerated; the external lateral ligaments were torn, the peronæal tendons and some nervous filaments were laid bare, and all the exposed surfaces covered with dirt and straws. There was no fracture of the crural bones, but the soft parts of the leg were much injured, and the system laboured under severe shock.

The question of amputation now arose, but it was determined, in consultation with Dr. Pethick, to give the patient her chance, and see what Nature could accomplish. There being very little hæmorrhage, the first thing to be done was the removal of the dirt and straws, which was effected by picking away the larger pieces; and washing out the rest with a stream of tepid water. After some muddy, bruised, and hanging fibrous structure had been cut off, the parts were very easily reduced, the wound was brought together with plaster, some soft lint gently wound around, and the whole placed on a soft support, with a suitable elevation.

During the evening, several doses of opium were given to quiet the most agonizing pain, but with very little benefit.

On the 23rd, the foot was not much swollen, but extremely painful, and that in paroxysms. The system was labouring under a low form of excitement, with hot skin; thirst; pulse 150, small and weak; furred tongue; headache; soreness; tears, tremors, and agitation.

By the morning of the 24th, there was more swelling and the leg was very tender. The lips of the wound were gangrenous throughout, for about an inch either side, and the pain somewhat mitigated. Simple water-dressing was applied, and small doses of opium, were given occasionally.

On the 25th, reddish-brown discoloration appeared on the inner side and back of the calf: and the day after a large bladder on the inner ankle.

By the evening of the 28th, her leg had become greatly swollen, red, tense, glistening, and at one point in the midfore-part semi-fluctuating; sensations of faintness passed over her, and her weakness was so great as so make it a labour to breathe or open her eyes; restless delirium also greatly disturbed the early hours of the night, but afterwards she fell into a little sleep.

The 4th of January, 1850, found her leg in a very much worse condition; the bladder on the inner ankle had burst, disclosing a circular slough of the size of a halfpenny, and, this separating, left a deep ulcer, with the malleolus at its bottom, and communicating with an immense abscess in the front of the leg; diffuse suppuration had broken down the cellular tissue from the ankle to the knee, and from the fibula to the opposite side of the calf; matter was discharged in such abundance as to lie in a pool around the leg, and run over the bed upon the floor. In the mean time, vomiting and inflammation of the mouth came on, white shreds hanging from the palate, and the throat was so sore that it was difficult either to swallow or speak, and the tongue could not be put out; the pulse beat 120, very weak, and her state was extremely precarious. A tincture of myrrh and nitric-acid gargle was ordered for the mouth; an incision made at the middle of the leg, gave free vent to the matter; the foot lowered, to keep it from gravitating to the knee, and her diet was improved, meat, jelly, and porter being added to the list.

For a few days before the 14th there was a little improvement, and the inflammation of the mouth had subsided; but now occurred an increase of fever, and the suppuration extended two or three inches above the knee, so as to require an incision on the inner side of the joint, and a poultice afterwards. The back also became sore, and pads were used to equalize the pressure.

By the 6th of February she was much improved; two openings had ulcerated in the upper part of the leg, but the pus was much less in quantity, the abscess contracting, strength rallying, mind cheerful, and sleep refreshing. Sulphate of zinc lotion had been substituted for the simple water dressing, and nitrate of silver occasionally employed; gentle pressure was made about the ankle; a grain of quinine and a drop of sulphuric acid ordered twice a day, and wine added to the diet.

On the 24th there was an increase of fever, and an abscess opened behind the outer ankle; strips of lint were placed in the incisions, to keep them open, and a roller was applied around the leg.

About March 6th, another small abscess formed at the inner ankle, and the cavity in the leg had greatly contracted. She now began to be taken out of bed, and placed in a chair, for a short time, every other day.

On the 8th and 17th, respectively, a small piece of dead bone was discharged from the outer ankle.

On April 7th she grew feverish; and on the following day the whole back of her calf was covered with white pustules, from a pin's head to a hemp-seed in size, surrounded with an areola, both scattered, and grouped in twos and threes. This was soon put to flight by acetate-of-lead lotion and disuse of the bandage. A few days afterwards, three grains of sulphate of iron and three of extract of gentian were ordered with each dose of the quinine.

May 21st.—Found the wounds and cavities of the leg all healed, those of the ankle only remaining. This part had gone through a varied succession of changes, sometimes diminishing in size, and feeling comfortable, at others, inflaming, swelling, suppurating, opening, pouting, and then subsiding again. On this day a piece of dead bone was discharged from the inner wound.

This wound was the only one that remained unhealed on August 1, and from it was then removed a dead piece of bone, of the size of a hazel-nut. Cure went now rapidly on, and by the end of the month, no breach of substance could be seen in the limb. The joint was perfectly stiff and immoveable, but the tarsal articulations allowed considerable and increasing flexure. There was not much deformity, and, by the aid of crutches, she walked about briskly every day, presenting, in her personal appearance, the bloom and vigour of returning health.

The only splint made use of in this case was a pillow, covered with oil-cloth, and turned up at the sides, so as to form a groove, with a little band fastened to it, to support the foot. Nature seemed to take this opportunity of showing what she could do, and of reading a lesson on the impropriety of removing limbs while any, however remote, chance of saving them remains.

CHLOROFORM SUCCESSFULLY ADMINISTERED TO A MARE PREVIOUSLY TO THE OPERATION OF FIRING;

WITH PRACTICAL REMARKS ON ITS ADMINISTRATION.

By George Bodington, M.D., Sutton-Coldfield.

I had recently occasion to consult a veterinary surgeon, as to a slight degree of lameness in the hind leg of a valuable young blood mare. He at once discovered bone-spavin of the hocks. He recommended firing and blistering as the most effectual method of treatment. Having a great aversion to firing, on account of the protracted agony and excessive cruelty of the operation, I objected, unless the mare were placed under the influence of chloroform. The veterinary surgeon would not be responsible for the consequences from the use of that agent, but I decided to take upon myself all responsibility. On the mare being cast and hobbled, I immediately applied about a drachm of chloroform, diffused through a small sponge, which nearly fitted the aperture of one nostril. This small sponge was placed in the concavity of another large sponge, having a hollow or cup-like surface. On the convex side of this I placed my hand, and thus kept the small sponge charged with chloroform, exactly upon and over the aperture of the nostril. The mare struggled violently several times whilst inhaling the chloroform, which rapidly evaporated from the sponge, and was inspired by the animal, fresh supplies being frequently added. At length it took effect, and on the first stroke of the red-hot iron to the hock, the mare evinced not the slightest sensibility or consciousness of pain.

The operation of firing is tedious and lingering, occupying commonly from one to two hours, and during this period the mare in question occasionally displayed symptoms of returning consciousness, and struggled against the "hobbles" by which she was restrained. The chloroform was immediately reapplied to the nostril, and almost instantly seemed to take effect and produce insensibility.

Mr. Graham, the veterinary surgeon of Broad-street, Birmingham, who performed the operation, declared he had never seen anything so completely successful. He performed his task with as much ease and deliberation as he might have shown upon a dead animal. When all was finished, and the hobbles were removed, the mare lay still, and apparently quite unconscious, until Mr. Graham dropped some water out of a large sponge about her muzzle and face, when she suddenly raised her head, sprang upon her feet, and seemed much astonished at her situation. This exhibition of chloroform has not produced the slightest ill effect upon the mare subsequently.

Thus, it appears that the horse—the noblest of animals, and the friend of man—can derive all the benefits of this valuable remedial agent, and be saved from the agonies of a most cruel operation. No horse, henceforth, should be subjected to any painful operation without its aid. Colts should be castrated under its influence. But I have a word to add respecting the mode of its administration.

The chloroform gas was applied to one nostril only, leaving the other free, for the admission of atmospheric air. Had it been applied at once to both nostrils, the question is, would it not have destroyed the animal? I believe it would. The respiratory organs would have been filled with it, to the exclusion of atmospheric air. Mingled with atmospheric air it is harmless, but not otherwise. Oxygen, as combined in the atmosphere, is essential to the maintenance of the action of the heart. There can be no substitute for it. Other gases may be inspired in conjunction with it, but not safely to its entire exclusion. The gaseous oxid of nitrogen will not alone sustain animal life, but, mingled with atmospheric air, it produces pleasurable and exhilarating sensations. Mephitic gas is respired with impunity, in conjunction with atmospheric air, but alone, or exclusive of it, it is instantly fatal.

It appears, therefore, if this view is correct, that these several gases are not necessarily fatal to life *per se*, but only when they occupy the respiratory organs to the exclusion of atmospheric air, the momentary exclusion of which, by any of them, is fatal to animal life, by collapse of the heart.

Several fatal cases have occurred from time to time from the inhalation of chloroform, and one case in particular was recently recorded as having occurred at one of the London hospitals. Under what circumstances? No effect was produced at first by the inhalation of the gas through a tube from a machine, so the patient was presented with a folded napkin or handkerchief charged with chloroform, which, it is to be presumed, was applied to the whole of the respiratory apertures at once. Might not this, then, have filled the entire respiratory organs with the chloroform gas, to the exclusion temporarily of atmospheric air, and thus have induced collapse of the heart? I surmise that this must have been the case. It is exceedingly desirable to ascertain the exact cause of death in these cases. If it should be found to be the result of the momentary exclusion of atmospheric air, as I am inclined to believe, in the exhibition of chloroform, then the remedy is obvious, and a similar precaution will obviate all danger.

The application of chloroform gas ought to be made, if possible, as safe and as secure as the giving a little brandy-and-water to a fainting person. The question, as I have put it, might easily and chiefly be determined at the Veterinary College or elsewhere, by practising experimentally upon a few donkeys. Let an ounce of chloroform be exhibited to an ass by one nostril, as above described; the same to another by both nostrils at once, and the effects observed. The experiment might be repeated with varied quantities, until the point become determined whether chloroform gas is deleterious in itself, or only dangerous when occupying the respiratory system exclusively of atmospheric air. Should the latter point be established, its exhibition would then become general in all cases attended with severity of pain arising either from accident or from operations. More patience would be exercised in awaiting its influence, and the free access of atmospheric air to the respiratory organs would be constantly provided for.

The question, then, to be determined is this, whether one, or two, or three, or four drachms of chloroform might not be inhaled with safety, *provided it is not done in exclusion of atmospheric air*, or whether any one of those quantities inhaled at once, made to pass through the respiratory apertures undiluted, unmixed, to fill the air-cells exclusively of atmospheric air, and to transmit to the heart blood unaccompanied with oxygen, and combined only with chloroform gas, must not of necessity be fatal to life? The horse breathes only through his nostrils, and not by the mouth; one nostril, therefore, should be left free in the exhibition of chloroform gas; in the human being, the gas should be inhaled by the mouth, leaving the nostrils free; a pipe and machine would therefore be the safest method, as it is obvious a handkerchief or napkin would, by covering both apertures, be liable to fill the lungs to the exclusion of atmospheric air. In the case above recorded, the mare inhaled, or there was consumed, about an ounce of the liquid; a drachm or two might have been lost.

ILLUSTRATIONS OF THE

SUCCESSFUL TREATMENT OF CLEFT PALATE,

BY THE DIVISION OF THE LEVATOR-PALATI, PALATO-PHARYNGEUS, AND SOMETIMES THE PALATO-GLOSSUS MUSCLES.

By JOHN AVERY, Esq., F.R.S.,
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The operation recommended by Professor Fergusson; its advantages. Dr. Warren's proposal for its performance. Extensive incisions advised by continental surgeons. Cases detailed, in which the operation has proved successful. Suggestion for modification of the cutting-instrument employed: engravings. Bloodlessness and little pain or constitutional disturbance attendant on the operation. M. Sédillot on staphyloraphy. A desideratum attained in adoption of the process pointed out for the cure of cleft palate.

THE principal reason for publishing the three following cases of cleft palate is to show the complete and speedy success which resulted in all of them, after the division of the above-named muscles, as recommended by Professor Fergusson, of King's College; and although their number is small, their results yield good testimony in favour of this particular method, the merits of which will be more impartially appreciated in the successful cases of those who are not the inventors of the method than in the cases of the inventor himself. They may also serve to call the attention of the profession again to this able, ingenious, and scientific operation, of the feasibility and utility of which many skilful surgeons still remain very sceptical.

A careful review of all the different modes of uniting the cleft palate shows that the plan alluded to is the only one founded on a truly scientific basis—on strictly anatomical and physiological grounds,—the only one, indeed, offering fixed and precise rules by which the operator who has made himself well acquainted with the anatomy of the parts, can with certainty, and without any extraordinary skill, accomplish the division of all the muscles which tend to pull the disunited parts asunder. This is done in the manner proposed, with the greatest effect, and the least possible mutilation, and in such a position as to produce the least amount of irritation during the after treatment, and also to give the greatest aid, in all other respects, towards keeping the parts in perfect quietude. In consequence of the almost complete temporary paralysis of the muscles thus produced, full advantage can be taken of giving liquid food from the earliest moment, a proceeding so much insisted on by Sir Philip Crampton, and scarcely second in importance to anything connected with the operation. The only operator who might appear in any way to have anticipated the merits of this proposal, is Dr. I. M. Warren, who made some incisions which had partially the effect of those made by Mr. Fergusson; but any one can convince himself that the true principles of the operation were not understood by Warren, until he had become acquainted with Mr. Fergusson's paper, when he discovered how near he had accidentally been to the truth, without having been acquainted with, or at least having explained, the real reason for his incisions. Before he had seen the paper alluded to, he says,—“*If* the fissure is wide, and this (drawing the flaps together) cannot be effected, I have found the following course to be invariably followed by success. The soft parts being forcibly stretched, a pair of long, powerful, French scissors, curved on the flat side, are carried behind the anterior pillar of the palate: its (the palate's) attachments to the tonsils and to the posterior pillar are now to be carefully cut away, on which the anterior soft parts will at once be found to expand, and an ample flap be provided for all desirable purposes.” The conjunction in italics shows clearly that Warren disregarded the action of the muscles entirely, if the parts could be brought together, which is relinquishing the very essence of the new method. And when he judges the incision necessary, the mere separation of the attachments of the palate to the tonsils and posterior pillar is only a very small part of the divisions lately proposed. It is only after he becomes acquainted with this proposal that he directs (in the *American Journal of Medical Science*, vol. xli. 1848, p. 330,) “to cut away the posterior pillar of the palate with strong curved scissors, and *continue the dissection behind the soft palate until the latter yields, and allows itself to be drawn across the chasm*,” and here, again, only when the “halves are too small to be easily brought into contact.” But the true principle—and this ought never to be lost sight of—is, not only to allow the halves to be brought easily into contact, but to prevent, as much as possible, all muscular action which could draw the parts asunder after the operation; and the less completely this principle is followed out, the more, I firmly believe, will be required to be done afterwards to remedy partial failures, which would not happen if the directions were rigidly adhered to. This is pretty well exemplified in a case which lately formed the subject of a clinical lecture, by Mr. Quain, published November 10, 1849. That gentleman seems still inclined to lay more stress, in his operation, on destroying the “natural elasticity” of the palate, and not clearly to admit the necessity of paralyzing the muscles, wherever they might act afterwards in drawing the parts asunder; for, he says, he is “not satisfied of the necessity of cutting the palato-pharyngeus and palato-glossus.” The success of this case does not appear to warrant the counsel he has given his pupils, to leave out one of the principal parts of the method which has already proved so successful. The fissure was described as being simply in the soft palate, and in all respects favourable for the operation, yet, when the ligatures were taken out, two largish apertures remained open, and were only gradually diminished by the frequent application of nitrate of silver, and ultimately required the application of the actual cautery to close them. Indeed, an inference might fairly be drawn, that the success of the operation had been jeopardized, in consequence of the necessary division of the muscles not having been made. Nor can I agree with Mr. Quain in his advice to allow the parts to remain two hours after the operation before finally closing the sutures, “as the oozing may cause sickness,” for I cannot imagine anything more calculated to produce sickness than the renewal of the bedevilment and discomfort of this very disagreeable operation, instead of at once concluding all the steps, giving the patient some comforting food, and placing him in bed.

Extensive incisions have been advised, at various times, by Dieffenbach, Mattauer, Pancoast, and others, and no doubt success will follow in many of these cases. My friend, M. Sédillot, the distinguished professor of military surgery at Strasbourg, has lately succeeded admirably in uniting the simple fissure of the soft palate, in two cases, where he separated the posterior pillar of the palate in the manner advised by Warren, and at the same time made an extensive lateral incision through the whole of the thickness of the velum, as practised by Pancoast. He has also invented some very ingenious instruments for passing the sutures. But the aim of the surgeon should be to attain his object with as little mutilation as possible, and to simplify, instead of complicating, the apparatus; and I can bear testimony to the perfect ease with which all the instruments advised by Mr. Fergusson can be used, and how perfectly they answer the purpose they are intended for. I regret that the able surgeon of Strasbourg, who was fully aware of the new method, had not given it a fair trial, as I feel assured he would then have furnished us with additional evidence in favour of the more simple and scientific proceeding.

Case 1.—Mr. H——, aged twenty-two, a stout and florid-looking young farmer, apparently in good health when he presented himself with cleft palate. The cleft commenced almost immediately behind the hard palate, and divided the velum and uvula into two equal halves. When irritated, the uvula and velum were so forcibly drawn upwards and outwards, that they became scarcely perceptible. When he attempted to swallow, the two sides nearly touched in the mesial line. He bore handling the parts well. His gums were spongy; his teeth were covered with tartar; his throat was red, relaxed, and covered with thick mucus. The wind being easterly at the time, and the weather very cold, he was directed to get his teeth attended to by a dentist, to take a quinine mixture, to use an alum gargle, and return to town when the weather was milder. He returned in May; and on the 20th, the operation was performed, in accordance with the directions given in Mr. Fergusson's paper. First, the prominent ridge formed by the levator-palati, which is well seen in relief, coming from behind the opening of the Eustachian tube, and widening as it descends, was divided with the knife curved on the flat, just where it passed into the velum, and from above downwards, so freely that the edge of the knife could be seen moving above the mucous membrane of the under surface of the soft palate. This division was made first, without drawing the soft palate inwards, and completed afterwards, by extending it gently towards the mesial line, whilst the incisions were made. The posterior pillars of the fauces were then drawn out with forceps, and divided with a bistoury; they were afterwards pinched up, and further divided by a pair of curved, blunt-pointed scissors. The flaps now hung quite flaccid, and could be brought without difficulty to meet each other. It could not be said they had no movement at all left in them, but they were nearly disabled, and more particularly at the posterior part of the velum and uvula. No difficulty at all occurred, after this, in transfixing the velum at about a line from its free edge, and commencing quite at the anterior angle of the cleft, with a small, pointed scalpel, and paring the edges to the very end of the uvula, without once taking the scalpel out, the parts, being so perfectly under command from the previous incisions. Five sutures were then passed, by means of the simple-handled nævus needle, slightly curved on the flat, proceeding from before backwards, and they were tied by the admirable knot described in the paper alluded to, and immeasurably superior, I believe, to all the devices hitherto invented for the purpose. In this case it was not necessary to divide the anterior pillars of the fauces. The parts hung without the slightest appearance of tension. The patient bore the operation with great fortitude, and did not complain of much exhaustion; and it seemed to me, in this as well as in the succeeding cases, that the latter steps of the operation were much more supportable after the incisions had been made. He had a little weak barley-water to wash his mouth with, and he swallowed it without irritation. At eight o'clock P.M. he felt very comfortable, took a small cupful of beef-tea, and had an injection of beef-tea, a wine-glass of sherry, and a drachm and a half of laudanum. Barley-water was placed by him to drink occasionally during the night. The remaining treatment and progress of the case are very simply detailed. He took generally a little beef-tea, and a cupful of gruel with sherry in it twice a day, and also had an enema with a wine-glass of sherry in it, morning and evening, for the first six days, when he had mock-turtle soup, and went into the park. On the ninth day he had chicken and wine-and-water. On the twelfth, meat and porter, and went to see the Thames Tunnel; and on the thirteenth he went home, with the part free from all danger of separation. His system was scarcely affected during the cure; his pulse, which was remarkably low for his time of life, never having been higher than 57 to 60, and sometimes as low as 48. He was a little sick on the third night, without the slightest effect on the ligatures. Forty-eight hours after the operation the first and third ligatures were removed; on the third day, the fifth; on the fourth day, the second; and on the sixth, the fourth, which still held firmly when it was removed. After the third day all fear of separation had nearly subsided. There were small ulcerations where the ligatures had been, and spots along the line of union were not completely healed on the under surface, but they all gradually closed by the thirteenth day, excepting one small place, about which there was no anxiety. The improvement in his speech was very marked as regarded making himself understood, the nasal twang remaining. There had been words which he had previously found it almost impossible to utter intelligibly, and which he could now easily make any one understand. His swallowing was also greatly improved.

Case 2.—This case was a patient of my friend Mr. Yearsley of Savile-row. Mr. Fergusson had, with his accustomed liberality, demonstrated to him the preparation which had been the basis of his discovery. Mr. Yearsley had also witnessed my first operation; I assisted him in his, and had the opportunity of watching the progress of the case, and therefore can vouch for complete justice having been done to all the steps of the new method. It is unnecessary to enter minutely into the history of this case; for the age, the size, the condition of the patient, the character of the deformity, as well as the exact steps of the operation, the treatment, progress, and the termination of the case, were as nearly as possible the same as in that already related, and the union was quite as perfect and immediate, and the result altogether as satisfactory.

Case 3.—This case was one of a much more aggravated character; so much so, indeed, that I did not anticipate a complete cure, and undertook the attempt with the promise of closing the cleft in the soft palate only, and to leave the cleft in the hard palate to Mr. Thomas Bell, who had engaged to close that part effectually by means of an obturator. The result, however, was one of perfect success, with one operation only, and shows in a proportionately clear light the great value of the plan adopted. Henry B.——, aged seventeen, healthy, but strumous and boy-looking for his age; had just returned from the country, where he had been for a couple of months for the purpose of getting himself into condition. He had hare-lip and cleft palate on his left side at his birth, and I learn from his mother that the cleft extended originally from the lip, through the alveolar process, to the end of the uvula. This is probable, as there is still a deformity in the regularity of the teeth, one of the incisors being absent entirely, and two others very much squeezed together. The hare-lip was united when he was very young. At the time of the operation, the cleft commenced in the hard palate, just behind the alveolar process, and continued directly backwards, dividing the soft palate and uvula into two halves. The division was more to the left than the right, particularly in the hard palate, as the vomer was attached to the hard palate of the right side, and the principal deficiency of bone was on the left side, there being very little breadth of bone in this situation. On the inner edge of the bony palate on this the left side, there was a firm, roundish, ligament-like band, which was continued into the edge of the fissure in the soft palate. Both sides of the bony palate inclined very much upwards, so as to form an acute angle on each side with the alveolar processes—a form which I believe is not usual in these cases, and which rendered the separation of the mucous membrane from the hard palate a matter of unusual difficulty. Both sides of the soft palate and uvula were pretty thick. The right did not extend so far backwards as the left, so that the two halves of the uvula hung very unevenly in the back of the throat. They almost disappeared at the sides of the fauces, when they were irritated, and approached each other very nearly on every attempt to swallow. The cleft in the hard palate was an inch in length, and the division at its posterior part was about three-quarters of an inch wide. The first step of the operation was to divide freely the levator-palati on each side, as in the first case; then the palato-pharyngeus. The flaps on both sides now lay much relaxed, particularly at their posterior part; but, as in the former instance, a slight movement still existed. After this, with the same curved knife used for dividing the levator-palati muscle, the fleshy part of the roof of the mouth covering the bony palate was completely separated from the bones, in the way recommended by Warren; and then, with a pair of strong, sharp-pointed scissors, curved on the flat, the soft palate was completely separated from the posterior edge of the palate bones, by cutting upwards into the nares, and leaving an entire loose flap on each side, extending from the anterior angle of the cleft behind the alveolar processes, to the end of the uvula. This part of the operation required great care, in consequence of the firm adherence, thinness, and brittleness of the textures covering the bones, as well as from the angle above mentioned, which made it extremely difficult to avoid cutting through the soft parts at the kind of chink near the alveolar processes. This proceeding of Dr. Warren was not effected with the expectation of producing the ultimate closure of the fissure in the hard palate, but merely to allow the anterior part of the cleft in the soft palate to come close, without strain, on the ligatures, and the first ligature was consequently placed in the soft palate, and none in that part of the flaps which had covered the bones, fearing they would cause sloughing, from the peculiarity of the textures already alluded to. There was every reason, however, to believe, afterwards, that if one or two ligatures had been placed on that part of the flaps, union would have taken place in the whole line at the same time, as it did in the soft palate, instead of gradually, as was really the case. Five sutures were placed in the soft palate, in the same order as before; and in consequence of the unequal length of the flaps, they were placed obliquely, in order that when they were tied, the two sides of the uvula should exactly correspond. In endeavouring to bring the flaps together, there was difficulty in making the left side advance sufficiently forward, without too much strain, and at last it was determined to divide the palato-glossus on that side. The difficulty was at once removed; the sutures were tied as in the other case, and the parts brought into the most satisfactory state, those in the hard palate being quite in apposition, although no ligature held them together. The operation lasted nearly an hour, notwithstanding there had been no hitch in any part of it, and every instrument fully answered its end. The only suggestion I would offer, and I do it with some diffidence, is to make that portion of the curved knife which is especially used in cutting, flat instead of curved, as this particular shape is ill adapted, for making a clean cut. Thus, instead of the shape of fig. 1, I would suggest that of fig. 2.

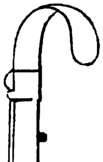


FIG. 1.

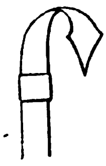


FIG. 2.

The poor boy bore the operation with great fortitude, and no bleeding occurred in this or the former operations. He passed the first afternoon very comfortably, without irritation or cough. At night, his skin was rather hot, and his pulse 90. He slept well. On the next morning, early, he was sick, and vomited a good deal of bilious matter, it was supposed from his having taken some arrow-root made with milk. Some of the matter vomited passed through his nostrils. Afterwards he complained of slight headache. Pulse 90; skin rather warm, but moist. The parts were not the least deranged by the vomiting; and afterwards he went on perfectly well, as regarded his health, enjoyed his food with great relish, and was no farther troubled with irritation, or cough, or sickness. Immediately after the operation he took thin gruel, which was repeated at pleasure. In the evening he had arrow-root, with three-quarters of a wineglass of sherry; and at night an enema, composed of beef-tea, one drachm of laudanum, and a glass of sherry. He continued his beef-tea, enemata with sherry night and morning, up to the sixth day after the operation, as well as the arrow-root and wine, with an egg occasionally beaten up in it, or isinglass in beef-tea, and similar food. On the sixth day he had wine-and-water, and ox-tail soup, thin puddings, and bread-and-milk. On the ninth day he had a mutton-chop, and, after that, game, or any other simple animal food. Two clear days after the operation, the line of contact was still perfect throughout, and the parts about the uvula, and between the third and fourth ligatures, were apparently firmly united. After the completion of the third day, the second suture was removed, and on the same evening, the third and fifth were also taken away. After the fourth day, an opening in the hard palate was visible to a slight extent, but the first suture immediately behind it held firmly, and, indeed, union seemed to have taken place between the opening and the ligature. After the fifth day, the first ligature was removed, and great anxiety was felt until next day, when all was found firmly held together, then the fourth and last ligature was removed, and all anxiety ceased. The opening in the hard palate enlarged to the extent of more than half an inch, and at one time a little backwards and laterally, as if the whole parts behind were contracting bodily more to the left side than to the right. On the seventh day he spoke a little, but he was not allowed to converse for some days after. He was well enough to leave before the fortnight was completed; and he continued to attend, at first, every two or three days, and then every day, and an attempt was made to produce granulations by the application of a strong solution of cantharides in acetic acid, without effect, so the part was left to itself, as the edges were quite close together. In a couple of months it was impossible to pass anything between them, although I believe they are not absolutely grown together even now.

One can scarcely imagine an operation of any importance more bloodless, or followed by less pain, by less local or constitutional disturbance, than in these three cases. At most there was a slight attack of sickness, which speedily disappeared. Much of this tranquillity depended, no doubt, on the early and continued exhibition of nourishment; but it may also be taken into account that the principal incision—that of the levator palati—is situated in the nares, where the parts are united, and thus removed, as it were, from the action of whatever is swallowed, and consequently not so liable to produce irritation. One cannot compare these cases strictly with those where food was not allowed; but in the cases alluded to of M. Sédillot, where food was allowed, and the incisions carried completely through the whole thickness of the palate, abundant hæmorrhage occurred in one; in both it was found necessary to bleed afterwards, and in his second case there was a good deal of pain, local inflammation, and fever. Most of the operators who have succeeded to any extent in these cases have used their own peculiar methods, which have not been found to answer in the hands of others in their own or in other countries; and a method which would succeed, irrespective of extraordinary skill or luck of individual surgeons, was still a desideratum. This fact is difficult to account for. Some explanation of it may be found perhaps in a quotation from M. Sédillot's papers, where he speaks of the success of his own countryman, M. Roux, whose good fortune in these cases has been generally believed in this country to have been extraordinary. "The illustrious inventor of staphyloraphy," says M. Sédillot, "not having published the results of his vast experience on this subject, it is not known what has been the proportion of cures and failures in more than 110 cases, I believe, operated on by him. However, the general opinion is, that success has been the exception, and staphyloraphy has been by degrees abandoned by surgeons." We can scarcely imagine, on this side the Channel, the *bonne foi* of any of our own eminent surgeons treated with so much freedom. Yet M. Sédillot must be too well acquainted with what is doing in France not to have some foundation for so decided an opinion. From the happy results of Mr. Fergusson's cases, from those of various other surgeons in London who have employed the same means, and from my own experience, I believe the desideratum of a method, which will, to a considerable extent, be successful whenever it is used, and requiring only a good knowledge of the anatomy of the parts, and a fair amount of surgical skill, has been supplied, by the proposal to divide the levator-palati, the palato-pharyngeus, and, if necessary, the palato-glossus muscles.

ON CARYOPHYLLINE, AND A NEW ACID FROM CLOVES.

By SHERIDAN MUSPRATT, M.D., F.R.S.E.,
Professor of the Liverpool College of Chemistry.

WHEN cloves are digested with ether, and the spirituous extract is treated with water, a quantity of a white substance separates—caryophylline. I allowed it to settle as much as possible before filtration. The separation of the solid from the liquid, by filtration, occupied a week, owing to the syrupy consistency of the mixture.

It is with the greatest difficulty and labour that the caryophylline is purified. I dissolved it in strong sulphuric acid, and then precipitated by water, but this did not yield it pure. A portion, several times effused with ether, and dried, was, to a certain extent, purified but still some green resin adhered to it. Having tried all the acids and fixed alkalies for its purification, I applied to Baron Liebig, who recommended treating it with ammonia. This was accordingly done. The caryophylline was several times—after treatment with ether—boiled with this volatile alkali, which rendered it pure.

When the ethereal extract is treated with a small quantity of water, the caryophylline crystallizes. It forms spherical aggregates of acicular crystals; inodorous, tasteless, nearly insoluble in water, sparingly soluble in alcohol, but copiously dissolved by ether.

A quantity of these crystals were purified by ammonia, and then submitted to the combustion tube.

Analysis of the Compound.

.1063 grammes of caryophylline gave—
.3100 " carbonic acid, and
.1020 " water.

These numbers correspond to the following per centages—

Carbon	79,02
Hydrogen	10,62

and lead to the formula, $C_{10}\ H_8\ O$, as may be seen by the annexed comparison:—

	Theory.		Experiment.
10 equivalents of carbon	60	.... 78.96	.... 79.02
8 " hydrogen	8	.... 10.52	.... 10.62
1 " oxygen	8	.... 10.52	.... 10.36
1 " caryophylline	76	100.00	100.00

The carbon is *a very little* too much in my analysis, but not sufficiently significant to warrant a closer result. Dumas obtained 79.5 per cent. of carbon, evidently proving that his caryophylline had eviscerated traces of the green resin, to which I have heretofore referred.

Caryophylline is extremely indifferent to chemical action. It is not decomposed by any of the strong acids or alkalies. With concentrated sulphuric acid it gives a fine carmine colour, which passes into a brown; sulphurous acid is eliminated in the heat. Water, when added to the mixture, precipitates the caryophylline in white flakes. It sublimes at about 285°, and condenses in the upper part of the tube in needles.

This remarkable substance appears to bear the same relation to oil of cloves as camphor does to oil of camphor.

Mr. Joseph Danson and myself are at present working upon cloves, which, when treated with water, the mixture filtered, and the filtrate drenched and boiled with nitric acid, yield an indifferent substance and a most remarkable acid. We intend operating upon twenty pounds of cloves, in order to get enough of the acid for a complete investigation. One of my former students, Dr. Robert Scott, teacher of chemistry in the Liverpool Mechanics' Institution, occupied himself with the acid; but circumstances prevented his carrying out the research. It is one well worthy of a six months' labour; therefore I have undertaken it collaterally with my assistant.

ON THE EXPULSION OF TAPE-WORM BY THE OIL OF MALE FERN.

By T. Pollard, Esq., M.R.C.S., Halifax.

There was reported in The Lancet, a few months ago, Dr. Budd's Clinical Lecture on the effect of Kousso in cases of tænia; the price of which having been an obstacle to its general use, a cheaper remedy was desirable.

I have since learnt that Dr. Budd has tried several other agents as a substitute, and that the oil of *male fern* has proved more efficient; and if it succeeds in general so well as a dose I obtained did, in the following case, it will prove a valuable remedy.

Case.—My patient has been the subject of tapeworm for twenty-six years, and has taken everything that had been recommended to him, for its destruction, without any effect, (even turpentine, in doses of a teacupful.) Portions of the worm came from him when he was in bed, sitting, and walking. At last he began to lose his strength, his appetite failed him, he could not sleep, had constant pain in his head, with dimness of sight; pain in his bowels, which were very irregular, and altogether felt unequal to his exertions. I gave him the oil as directed by Hooper, and in about six hours afterwards he began parting with portions of the worm, in all about twenty feet. He is now rapidly recovering his health and strength.

ON DUMB-BELL CRYSTALS OF URIC ACID DISCOVERED IN THE URINE.

By Marris Wilson, M.D.

The most remarkable and curious of all the formations which occur in urine is the dumb-bell, attention to which was first drawn by Dr. Golding Bird, by whom it was described as a condition peculiar to oxalate of lime. More recently, Dr. Hassall (see The Lancet, of 1850,) has pointed it out as a form assumed by other oxalates, and also by soda and potash, in combination with sulphuric acid.

Having been for some time past engaged in the analysis of urine, in a variety of diseases, I was led to make a series of experiments, for the purpose of determining the condition of the urine favourable to this formation; and in the course of these observations was enabled to determine the following interesting facts:—

Firstly. That dumb-bell crystals are very frequently developed, as the result of certain modifications of uric acid.

Secondly. That it is not to the salts of urine alone that this formation is confined, for I have frequently met with it in solutions which had no organic origin, and in a variety of salts.

I should perhaps premise, that although Nature seems to accomplish her ends without effort or excess, and sometimes most unexpectedly, it is occasionally very difficult, in prosecuting experiments, to arrive at satisfactory results. I am led, however, to the conclusion, that the form of the dumb-bell crystal depends upon a specific but independent force, developed under certain determinate circumstances, consentaneously with that of homogeneous attraction or aggregation.

I have observed, that when spicular crystals commence forming upon a centre, after stretching some little distance in a straight line, they begin to branch and and spread outward; and that as this lateral force is more or less vigorous, that of extension is arrested, and the tuft of spiculæ spreading from the central point, assumes the flattened globular shape, in a proportionately complete degree, and the same action taking place at both ends of the primary crystal, constitutes the dumb-bell form. It appears to me that this effect arises purely from the agency of electricity; and that, as an arranging power, it is quite separate and distinct from that of aggregation, and depends for its influence upon the repulsive force manifested towards each other by similarly electrified bodies.

The first effect of consolidation in the crystalline centre is the production of a small amount of electrical action, sufficient in itself to cause two especial points of that centre, when it is the basis of a future dumb-bell, to assume a mutual repulsion.

This compound formative power, being directed on two opposite points of the mass, will continue, until arrested by consolidation.

As the electrical or arranging force predominates, a limit will be fixed to the longitudinal extension of the crystals, and proportionately the lateral arrangement propagated, until a more or less complete dumb-bell is produced.

Occasionally this latter action is so powerful as to fill up with spiculæ and consolidate the entire space around the centre of crystallization.

But it is not my intention to enter into the very interesting subject of crystallization generally, many new phenomena of which actual examination by the microscope has taught me, but to confine myself to the form and construction of the dumb-bells of uric acid. Uric acid and oxalate of lime occur very frequently together in the same deposit, and from their combined presence very different forms of dumb-bell crystals are found together; it is therefore of the first importance to separate each salt carefully, before proceeding to subject it to experiment.

While analyzing some urine of high specific gravity, and in which there was a copious precipitate of uric acid, I added a solution of caustic potash in sufficient quantity to dissolve the deposit. The urine thus treated was twice filtered; a light flocculent cloud of uric acid, in combination with potash, made its appearance in a short time, and gradually subsided to the bottom of the vessel. The supernatant fluid being decanted off, hydrochloric acid, in great excess, was poured suddenly upon the sediment, which, after a rest of about a quarter of an hour, was found converted into a thin layer of opake dark-brown uric acid dumb-bells. These differed in the most marked degree from the dumb-bell of oxalic origin by their great insolubility in water. But the experiment is open to the doubt that an oxalate might have gained entrance.

I then separated some highly crystallized uric acid from the urine in which it was deposited, and washed it thoroughly with large quantities of warm water; it was then dissolved in pure caustic potash, and filtered through paper. On adding strong hydrochloric acid in excess to this solution, dumb-bell crystals were deposited, some being of very perfect form, others not so.

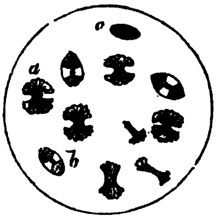
Some pure lithic acid was dissolved in concentrated sulphuric acid; to this solution two-thirds of water were added, and there occurred an instantaneous precipitation of imperfect dumb-bells. To show the difficulties of this kind of demonstration, and the changes likely to result from varied circumstances, a small quantity of this concentrated sulphuric solution being dropped into a large bulk of water, the resulting deposit consisted of thin broad plates, the two edges of which, in the longitudinal direction of the spiculæ, were considerably thickened, forming ridges; but these plates, when rolled over on their thin edges for examination, also presented a dumb-bell form, though from their narrowness it was impossible to retain them on the edge.

The dumb-bells to which I wish to call attention and give a description are those obtained in the deposit caused by the addition of hydrochloric acid to the potash solution. My reason for so doing is because I have observed the same forms as a natural deposit among uric acid; and these, although of such a remarkable form, have, I believe, until the present time, been left undescribed.

They consist of a thin translucent plate, of an oval or rhomboid form, having a slightly elevated ridge running along their middle in the direction of the long diameter, and from near the extremities of which extend two compact kidney-shaped crests of thin spicular crystals, their long diameter being across the plane of the translucent plate. A transverse section of one of the kidney-shaped crests would present an oval outline.

From the way in which the weight is arranged—namely, in the centre of the crests—the crystal has, while under the microscope, a tendency to float with the edge of the thin plate turned towards the eye of the observer. Circumstances, however, occasionally seem to dispose the face of the thin plate to be directed upwards, and then, without a close and careful examination by rolling the crystals over, their dumb-bell shapes might escape the eye of the microscopist, and seem to represent only rhomboid plates of uric acid.

FIG. 1.



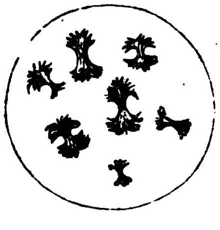
Represents the dumb-bell crystal as deposited by the addition of hydrochloric acid to the potash solution of uric acid.

a. The crystal with the edge of the thin plate turned towards the eye of the observer.

b. The same rolled over to show the face of the thin plate.

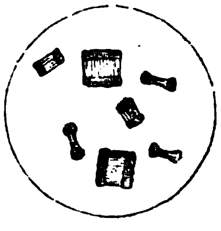
c. Shape of a transverse section of a kidney-shaped crest.

FIG. 2.



The same shapes deposited from concentrated sulphuric solution.

FIG. 3.



The forms assumed by the crystal when a small quantity of the sulphuric solution is dropped into a large quantity of water.

In the hydrochloric deposit there was considerable variety of size, the following being measurements made with one of Powell's large microscopes:—

Long diameter of the largest crystals ...	$\frac{1}{550}$
Ditto ditto smallest	$\frac{1}{900}$
Long diameter of the largest crests ...	$\frac{1}{750}$
Short ditto ditto	$\frac{1}{1500}$
Long ditto smallest crests ...	$\frac{1}{1000}$
Short ditto ditto	$\frac{1}{3000}$

ON THE BEST PREPARATION OF ARSENIC FOR INTERNAL ADMINISTRATION,

AND ON THE CHEMICAL COMPOSITION OF FOWLER'S SOLUTION.

By Lloyd Bullock, Esq.,

During several years past, I have from time to time been asked by practitioners, both in town and country, whether no better and more convenient form of arsenic could be recommended for internal administration than the liquor arsenicalis of the Pharmacopœia. It appears to be the opinion of many who employ arsenic, either as an anti-periodic, or against skin diseases, that the officinal preparation is uncertain in its action—what is usually deemed a small dose in some cases acting with violence, whilst, in others, large doses produce but little effect. This may doubtless, in a great measure, be referred rather to peculiarities of constitution in the patient than to differences in the preparation. Nevertheless, the mode of preparing the liquor arsenicalis adopted by all the colleges belongs to a period antecedent to the present state of chemistry, which demands, in all cases, precision, and the rejection of every process either vague in itself, or admitting the possibility of failure to obtain the intended result. In the instance of the solution of a metallic salt, the maintenance of a certain standard strength being always the desired object, it is certainly always desirable, if possible, first to obtain the salt in a crystalline form, and then, being assured of its purity, both by its chemical and physical characters, to dissolve it in an exact amount in the necessary proportion of menstruum. On this principle I have for several years recommended the employment of the arseniate of soda, a salt which has all the required characters of great solubility, definite form, and the additional pharmaceutic advantage of being readily made into pills, in such a manner as to ensure every pill containing any given fraction of a grain with perfect accuracy. Moreover, it may be kept in a crystalline form, and dissolved readily, as it is required. Of the arseniate of soda I have received reports from a great many practitioners, invariably favourable as to its therapeutic effects.

The use of arseniate of soda in medicine is nothing new. It is the basis of Pearson's solution, which consisted of one grain of arseniate of soda to one ounce of water. What the reasons may be which led to this salt having been hitherto omitted from the Pharmacopœia, I am unaware.

About twelve months ago, my attention was particularly directed to the liquor arsenicalis by a physician, who was dissatisfied with its effect, and, at his suggestion, I was induced to look more closely into this preparation. The directions of the Pharmacopœia for preparing liquor arsenicalis are as follows:—

"Take of arsenious acid, broken into small pieces, carbonate of potassa, each eighty grains; compound tincture of lavender, five fluid drachms; distilled water, a pint. Boil the arsenious acid and carbonate of potassa with half a pint of the water in a glass vessel until they are dissolved. Add the compound tincture of lavender to the cooled liquor. Lastly, add besides, of distilled water, as much as may be sufficient, that it may accurately fill a pint measure."

I made the following experiment:—

1. Taking 80 grains of arsenious acid in coarse powder, 80 grains of carbonate of potassa, P.L., and 10 ounces of water, I found a perfect solution effected on heating, to 212°, with the evolution of only a trace of carbonic acid.

2. The solution was then boiled until it ceased to give off carbonic acid; it required about twenty hours, an equivalent of the carbonate if potassa was decomposed, forming arsenite of potassa, corresponding with the following formula:—

$$\begin{array}{cccc} AsO_3 & KO,CO_2,1\tfrac{1}{2}HO & AsO_3 & KO,CO_2,1\tfrac{1}{2}HO \\ 99 \ : & 83.5 & :: \ 80 \ :: & 67.5 \end{array}$$

It would appear, therefore, that the liquor arsenicalis of the Pharmacopœia is a solution of arsenious acid in carbonate of potassa, with a minute quantity of arsenite of potassa. On looking through all the dispensatories, and commentaries on the Pharmacopœia, I was surprised to find no allusion to this fact. Soubeiran, however, notices it, but no other French writer on pharmacy subsequent to Soubeiran, that I am aware of.

If it be desirable to give arsenious acid with carbonate of potassa, the following process will give a uniform preparation:—Take eighty grains of arsenious acid in coarse powder; eighty grains of carbonate of potassa, P.L.,; compound tincture of lavender, five fluid drachms; distilled water sufficient to make up twenty ounces. Boil the arsenious acid in fifteen ounces of water until dissolved, remove it from the fire, allow it to cool a few minutes, and add the carbonate of potassa dissolved in four ounces of cold water; when the temperature of the mixture is reduced to 60°, add the compound tincture of lavender; lastly, make up exactly to twenty ounces with distilled water.

It is probable that many gentlemen may wish to prescribe a true arsenite of potassa, a salt they supposed they were exhibiting in the liquor arsenicalis of the Pharmacopœia. To distinguish this salt from Fowler's solution, it may be called liq. potassæ arsenitis neutralis, and instead of sp. lavand. co., a small quantity of a distilled spirit could be used. The liquor potassæ arsenitis neutralis may be prepared by taking 80 grains of arsenious, and 67.5 grains of carbonate of potassa, P.L., or 81.6 grains of crystallized bicarbonate of potassa. Boil in ten ounces of water until no more carbonic acid is evolved; when cold, make up to exactly twenty ounces, with distilled water, and if thought desirable, a small quantity of a distilled spirit.

There appears to be a variety of opinions as to the best form of giving arsenic. Mr. Hume and others, vide *London Medical and Physical Journal*, vol. xxiv., would prefer binarseniate of potassa, but I find that this compound, which was admitted into the former edition of the Dublin Pharmacopœia, has been recently omitted.

The binarseniate of potassa is a beautiful salt easily prepared; keeps well, and from its fine crystalline form its purity is readily ascertained. It would be well if some satisfactory reasons were given for the rejection of this salt.

M. Boudin considers a simple solution of arsenious acid in distilled water as the best; whilst Bieto prefers arseniate of ammonia. There is also a solution of arsenic in some repute, known as De Valangin's solution of solvent mineral, which is a solution of arsenious acid in hydrochloric acid.

It appears to me that the weight of testimony is in favour of arseniate of soda. M. Cazenave speaks highly of it; and upon the whole I should say it is probably milder in its action than other forms of arsenic, and, as far as I know, is devoid of objection.

The best method of administering the arseniate of soda is in the form of pills, made up with crumb of bread, or some inert powder.

In conclusion, I think I cannot do better than quote Dr. Powell, who, writing on arsenic, observes, "when the dose is small, and the effect so powerful, the most minute attention to its proportion and preparation becomes necessary."

ON CERTAIN IMPORTANT POINTS IN THE CHEMISTRY & PATHOLOGY OF THE URINE.

By Arthur Hill Hassall, M.B. Lond.

(Continued from Nov. No., p. 476.)

On certain modifications in the form of the Crystals of the Ammonio-Magnesian Phosphate as they occur in the Urine of Man.

The crystals of the neutral ammonio-magnesian phosphate present many modifications of form, some of which, without explanation, are calculated greatly to puzzle the observer: they may all be referred to three heads.

In the first, the crystals are perfect in all their parts, but the proportions of these to each other vary much. The crystals in the form in which they are ordinarily encountered are three-sided prisms, two or three times as long as broad, with the lines and angles entire.

In the first variety of the above typical form the crystal is only slightly longer than broad.

In the second, the length of the prism is so reduced that the crystal lies in general, not, as it usually does, on its side, but on the end, and in this view it of course presents a triangular outline.

The second heading or division includes all those varieties of shape which result from the imperfection of the angles of the crystal.

In the simplest of these, one of the longitudinal angles is replaced by a square facette.

In the variety next in order of complication, the three longitudinal angles are replaced by facettes, which vary in size in different cases, but in general are equal in breadth to the remaining facettes of the crystal; from this arrangement there results a more or less regular hexagonal prism. Where the prism is very short, so as to lie upon its end, it presents the appearance of an hexagonal disc or plate.

In a third modification, the terminal angles are removed sometimes equally, at others unequally, and usually from both extremities of the crystal, but occasionally only from one; this variety is very common, and is the one ordinarily described and figured in books.

The third division includes those modifications in which the crystals unite together and form compound figures.

In one of these the terminal angles of the crystals are replaced by facettes, and the crystals themselves are not well defined, but are more or less fused together into masses, which have some resemblance to pieces of nitrate of urea.

In another the crystals are joined end to end, and thus give rise to variously branched figures.

In addition to the above, some other varieties, more irregular in form, and difficult to describe intelligibly, have presented themselves to my notice.

It happens occasionally that the varieties run into each other, but in general they keep surprisingly distinct, and in the same urine it is rare to find more than one or two of the modifications above described.

On certain Modifications in the form of the Deposit of the Urate of Ammonia.

This salt is usually described as being deposited from the urine as an amorphous powder, and this is indeed the ordinary form in which it occurs. It not unfrequently, however, presents itself in circular masses or spherules; these generally are very small, but in some cases they attain considerable size, and exhibit, when viewed with a high object-glass, a radiated crystalline texture, and in this state they bear much resemblance to the spherules of carbonate of lime occurring in the urine of the horse. A number of the glomeruli, in place of remaining distinct, as they most frequently are, sometimes partially coalesce into little masses or concretions, irregular in form and size. Rarely, also I have encountered in evaporated urines needle-like crystals of urate of ammonia.

On peculiar Modifications in the form of the Crystals of the sulphate of Soda.

The sulphates occur in the residue of drops of evaporated urine under a variety of forms, some of which I have already described elsewhere.

One very remarkable variety is presented by what I believe to be the sulphate of soda; it occurs as an oblique quadrangular pyramid, having the summit more or less prolonged. This form likewise presents numerous modifications determined by the length of the produced angle, and the degree of perfection of the remaining angles of the prism.

Of the various modifications thus briefly noticed in this and previous papers, I have preserved well executed figures, nearly two hundred in number.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, Dec. 10, 1850.—Dr. Addison, President.

Case of Softening of the Spinal Marrow in a Boy affected with Chorea. By Robert Nairne, M.D., Physician to St. George's Hospital.

A boy, aged seventeen, was admitted into St. George's Hospital, on the 27th of June last, with symptoms of acute rheumatism, and presenting, at the same time well-marked symptoms of chorea. A mitral systolic murmur could be heard. The boy had suffered from previous attacks of rheumatism since the age of twelve, but his friends had never seen him "in this way" before. The last attack of rheumatism was about Christmas, 1849. During five weeks before he came to the hospital, convulsive motion of the hands had been observed; during the last two weeks he had stuttered much, and frequently contorted his mouth. Five days before admission he had been to market in a cart; he complained much of the jolting; and the next day was unable to leave his bed. He did not attempt to walk afterwards, and was said to have had a fit on the morning of the 24th. He was somewhat relieved by the treatment employed during the first day or two; he then became worse, more restless, delirious, more feeble, and violently convulsed. For two days he passed his motions under him. Some hours before his death the convulsive movements ceased, and he became comatose. The body was examined twelve hours after death. There was congestion of the veins of the spinal canal, and of the veins and sinuses within the cranium. About an inch of the *entire thickness* of the spinal cord, opposite the third and fourth dorsal vertebræ, was *white, softened, and almost diffluent*, the rest of the cord being in its natural state. The brain was of firm consistence, and injected with blood. The pericardium adherent; the mitral valve fringed with small vegetations. The lungs congested. The author remarks upon the points of interest of the case:—Chorea associated with acute rheumatism, and palsy of the lower extremities, depending upon softening of the spinal marrow. He refers to four cases on record, where softening of the spinal marrow existed in persons who had been affected with chorea. He does not consider there is any reason for supposing that in these cases the softening of the spinal marrow was the cause of the chorea. His observation of this disease would deter him from connecting it with disease of the brain or spinal cord. He believes a careful study of the phenomena of the disease during life to be the best means of gaining a more correct insight into its nature than we are possessed of at present. He refers to three other fatal cases of chorea which have been observed by him in the wards of St. George's Hospital: one occurred in his own practice, and the other two were patients of Dr. Macleod. He concludes by remarking, that the curious fact of the existence of sensation, and the transmission of nervous impressions to the palsied muscles of the lower extremities, although the spinal marrow had undergone the change of structure above described, shows that there is yet much for us to learn respecting its functions.

Mr. Webster said that as Dr. Nairne had alluded to several authors who have written upon this subject, he would add other authorities who entertained somewhat opposite sentiments. Serres found the corpora quadrigemina and striata diseased in four cases of chorea. Majendie and Bouillaud limited its seat to the cerebellum. Dr. Copland, about thirty years ago, published a case in which there was an effusion of coagulable lymph, nearly the whole length of the spinal column, with inflammatory appearances of the membranes. Dr. Aleprandi considered the spinal cord to be chiefly implicated; whilst Dr. Prichard had met with morbid alterations of structure of the same kind in four instances, and from all he (Dr. Webster) had ever seen of this complaint, the medulla oblongata seemed to be the true seat of chorea. The sex and age of Dr. Nairne's patient were also interesting points, and especially as the disease in this instance terminated fatally. The disease is less frequently fatal in lads than girls. These conclusions were founded upon good evidence—namely, that in twenty-one cases which had come under his (Dr. Webster's) own care, sixteen were girls, and only five boys; amongst the former, of whom one died; but as permission was not obtained to examine the body, the morbid changes could not be ascertained. Respecting the comparative mortality in each sex, he might state, that of twenty-four deaths registered from chorea, throughout England and Wales, during a recent year, twenty were females, only four being males. Hence, this disease appeared, not only more common, but of a much severer character in the former than in the latter class of patients. The author had not enlarged upon the treatment of this frequently intractable complaint; Dr. Webster would observe, however, that the purgative method recommended by Dr. Hamilton, proved the most successful, according to his experience, the purgatives being accompanied, in most cases, or at least soon followed, by tonic remedies; especially steel, where any uterine derangement prevailed. Some stimulating applications to the spine were employed occasionally, with considerable benefit, the diet being light and nutritious; whatever opinions might be entertained in regard to the pathology of chorea, all must admit that its treatment is always of great interest to practitioners.

Mr. Barlow said that Dr. Nairne's case seemed important, as showing that disease of the spinal cord might go on unsuspected, with symptoms simulating those of chorea, and that in spite of every care on the part of the physician. He took the liberty of doubting whether what had been called fatal chorea—a thing which happens very rarely—could, when spinal lesion was found after death, be termed a *true* instance of that disease. It might have appeared like it in its course; but post-portem examination seemed to claim for it a classification amongst organic spinal affections. Of course one means of diagnosis during lifetime consisted in a close examination of the movements; those of chorea were quite peculiar, and totally different from that quick, spasmodic, sometimes quivering movement which was seen in epilepsy and some other affections. The elements of the disease were complex; the blood, the spinal cord, the will, the passions, seemed occasionally all to take their part in causing and completing the symptoms of a given case. He was surprised at the rate of mortality of chorea to which Dr. Webster had referred. Were the cases he had alluded to really chorea?—had any of them been examined after death? Mr. Barlow thought that all such cases as those of Dr. Nairne deserved to be recorded and carefully considered.

Dr. Webster, in reply to Mr. Barlow, observed, that the twenty-four deaths by chorea, which he mentioned were given on the Registrar-General's authority: the facts there reported being conclusive evidence. As Mr. Barlow seemed to have misunderstood his (Dr. Webster's) observations respecting the sexes of the twenty-one patients treated by himself, it became necessary again to state, that sixteen were girls, and only five boys; all being, however, younger than the patient whose case was related that evening by Dr. Nairne. Regarding the remarks of Dr. Crawford, he would observe, that wherever chorea occurred during advanced life it was generally in females, of which an instance is reported in a woman upwards of eighty; as also another from fifty to sixty years of age; whilst he (Dr. Webster) had been consulted respecting a full-grown female between eighteen and nineteen, who was the oldest patient he had seen affected with this malady; Dr. Crawford's opinions were consequently fully borne out by experience. Some physicians thought chorea was occasionally an hereditary complaint. It might be so, but although he had made inquiry on this point, no traces of the kind could he ever establish; however, he would mention, that two of the cases previously alluded to occurred in a brother and sister; the former having been of a very severe description. Dr. Webster then said, chorea most frequently affected the ill-fed children of the poor, living in dirty, unhealthy localities; and that it was much less common amongst the middle or upper ranks of society.

Dr. Sibson said, that this case was not the less a case of chorea because of its fatal issue, and the presence of softening in the spinal cord. (During eleven of the thirteen years that he resided in the Nottingham Hospital, eighty-four cases of chorea were admitted, of which five died from exhaustion.) He need not say that those were chiefly the worst cases that were admitted. This fact supported the accuracy of the registrar's returns of deaths from chorea, quoted by Dr. Webster. Chorea, like apoplexy, is rather an assemblage of symptoms proceeding from various morbid causes, than a disease itself. The choreal movements, irregularly alternate, involuntary, and increased by emotion, are allied to those movements which often take place in a paralyzed limb, under the influence of emotion; they are allied also to those remarkable and alternate reflex movements of the whole body, observed by Sir Benjamin Brodie, in a decapitated dog during artificial respiration. Here the control of the brain over the reflex movements was withdrawn, while those movements were excited vigorously by the circulation. In chorea, the control of the brain over the reflex movements is lessened at the same time that the general movements are excited by emotion. The cause disturbing the balance of the cerebral control over the nervous forces might exist in various morbid conditions, any of which might excite the choreal movements.

Dr. Todd said that though there might be some difference of opinion respecting the pathology of the disease under consideration, still we could discuss the treatment. The case, though curious, was not very uncommon. He would inquire if any one had tried the influence of chloroform on chorea? It had been used in some convulsive diseases, and with marked effect.

Dr. Snow had tried chloroform, in one case of chorea, at Charing-cross Hospital. The patient was a little girl, under the care of Dr. Chowne. It removed the spasmodic action at the time, but he was not aware whether it exerted any permanent influence on the little patient. He had had no further experience on the subject.

Dr. Sibson had used chloroform, in one case, in the Nottingham Hospital. The patient was relieved, but not cured. He had found in cases of chorea, that the application of tepid water to the head afforded more relief to the convulsions than had any other remedy.

Mr. Streeter hoped that the discussion would not terminate without some allusion to diagnosis. Wishing to speak with diffidence, on cases not personally seen, he would say that there was something more than chorea here. He would suggest the spinal arachnitis or myelitis of Ollivier. A chronic disease, involving the neurilemma of the fibrillæ of the cord, had been the primary disease, and the supervention of the ordinary symptoms of chorea arose from the extension of irritation above and below the local affection. This disease, in its acute form, was rapidly destructive to the nervous tissue, and its immediate diagnosis, from rheumatism or common nervous irritation, was essential to save the sufferer from being crippled for the remainder of life. Several years ago he met with such a case of spinal meningitis, in a youth, who applied to him one morning with unusual movements in his fingers, attended with numbness. Pressure over the spine, between the shoulders, gave great pain, and was followed before night by rapid aggravation of the symptoms, and development of the true nature of the attack. In consultation with Dr. Robert Willis, the most active treatment was pursued,—bleeding from the arm, purging, leeching, ptyalism, and blistering. The symptoms disappeared, but a long period of quietude from active exertion, and a country residence of two years, elapsed, before complete restoration of his usual muscular powers. Had a few hours been lost in the diagnosis or treatment, this young man had been a cripple for life. The danger of the acute form he trusted would excuse his digression; but the case related by Dr. Nairne he believed was an instance of the same disease in an insidious chronic form, complicated with other and more obvious forms of functional irritation, which had masked the more dangerous local organic disease that was going on in the neurilemma of the spinal cord.

Dr. Nairne said, that looking at the history of the case related, and to the presence of articular rheumatism and endocarditis, he thought, notwithstanding the remarks that had been made, that the diagnosis he had come to was the most natural one to form. With respect to Mr. Barlow's question, as to whether the spasmodic movements were really those of chorea, or not, he (Dr. Nairne) could only observe, that they had all the distinctive characteristics of that affection; and the tongue was put out violently, and suddenly retracted in a manner which we did not observe in any other disease. In cases where spasmodic movements resulted from disease of the spinal marrow, he had not seem them so much influenced as they were, in this case, by emotion. He still considered his view of the case correct, and he was convinced that no physician could mistake the movements for any other disease.

Dr. Mervyn Crawford regarded chorea as usually a functional disorder, and more particularly so from the fact of its occurring later in life in women than in men. He had seen eight or ten cases in which it occurred in girls seventeen years of age, and three or four in which the patients were twenty-four years of age. He had not seen a case in a male so old as the patient in Dr. Nairne's case. Whatever the cause of the disease, we might all form some idea of the mode of treatment to be pursued. If cases were to be cured by purgatives and steel, it was evident that congestion of the spine could not, as had been imagined, be present in all cases. With respect to age, he had some time since a man under his care affected with what he believed to be genuine chorea at the age of sixty-five. He presented all the symptoms of the affection in a well-marked form, and the disease resisted every means of treatment which had been resorted to. The man's intellects were quite clear. He thought that in this case there was latent organic disease in the spine. He did not recollect to have seen a fatal case of chorea. The treatment must vary with circumstances; purgatives, tonics, the sulphates of zinc and iron, and the shower-bath, were effective remedies in the usual run of cases. In a few instances the more powerful tonics, as the liquor arsenicalis, might be necessary; but no plan could be laid down that would be applicable to every case. In females between puberty and twenty-four years of age menstruation was usually in some way interfered with. This should be rectified, and the treatment for chorea resorted to. It was interesting to inquire what were the circumstances which contributed to death in the fatal cases.

Dr. Todd inquired of the last speaker whether his patient might not be suffering from paralysis agitans? This disease in some cases simulated chorea; but in paralysis agitans the movements could be controlled by mechanical means, such as laying hold of the limbs, while in chorea any attempt to control the movements only increased their violence.

Dr. Crawford said all the symptoms of chorea were presented in his case in an aggravated form. The movements were increased by attempts at coercion. The patient had not suffered from previous illness.

Dr. Seth Thompson had found in violent cases, that the tartar-emetic had been most effective in controlling the convulsive movements. In the case of a young plethoric woman, in whom chorea supervened on miscarriage, he had, after other means had failed, given her half-grain doses of the tartar-emetic, with a drachm of sulphate of magnesia, every two or three hours. In twenty-four hours, the convulsions, which had been very violent, abated, and she was quite well in three days. In this case there was no doubt of its being chorea. The intellect was clear, and there was entire loss of sleep.

Dr. Nairne had employed the tartar-emetic in his case at the commencement, but it did not, after the second day, control the symptoms, and pyrexia increased. He then gave the boy calomel to a considerable extent; but all was of no avail. He had not mentioned the treatment he had pursued in the paper, because he thought the physiology and pathology of the case the more interesting features of it.

Dr. Black said the chief question of interest was the relation that the anatomical changes bore to the symptoms of chorea. Chorea was often the result of fear, or of any other sudden mental emotion, and in these cases we could not associate the symptoms with any pathological change; they then bore some analogy to the tottering knees from alarm. Chorea might be an accidental complication with other diseases, from the latter of which the patient might die, and the death be erroneously attributed to the chorea. With respect to the disease being hereditary, it was possible that there might be such a condition of original constitution as would, under favourable circumstances, tend to the production of chorea, and this might, to a certain extent, be regarded as hereditary.

Mr. Tatum should regret if the debate terminated without some further allusion being made to the state of the spinal cord, and on the physiological points bearing on its alteration of structure. It was stated in the paper that a portion of the cord was in a diffluent state, and apparently without coherence or organization. It was a remarkable and interesting fact, that the choreal movements in the lower limbs should have been influenced and modified by mental emotion, showing that the chain of nervous communication was still kept up between the brain and that portion of the spinal cord which was apparently isolated. In what way could this be explained? Was there any other channel for the transmission of the nervous influence? Was the cord, in its state of diffluence, still able to transmit motor power? Was there more coherence in it than its appearance indicated; or was not coherence really necessary for the proper functions of the organ? These were all questions of great interest. Many present had seen cases in which many of the nervous functions had been carried on, in which a portion of the spinal cord was apparently disorganized. He should like to hear some observations on this point.

Dr. **Black** said, there would appear to be some connexion between paralysis agitans and chorea, and also to the mercurial affection which attacked workmen who silvered glass, inasmuch as they were all diseases of the waking and not of the sleeping hours.

Mr. **Charles Hawkins**, on the question of the hereditary nature of chorea, said, that of seven members of a family of which he knew something, five were paralytic, the eldest of whom was sixty, the youngest forty.

Dr. **Todd** said, that paralysis agitans was not a disease simply of the waking state; the movements might occur during sleep.

Dr. **Ogier Ward** remarked, that the diagnosis between paralysis agitans and chorea was not always to be determined by the influence of coercion upon these diseases. In a case of paralysis agitans of long standing, he had found, on every occasion, that the agitation was increased if the wrist was grasped in the attempt to feel the pulse.

Mr. **Athol Johnson** inquired if the diffluent state of the cord was complete, and through its entire extent?

Dr. **Nairne** said that the centre of the cord was fluid, and the outer portion of it completely destroyed, being held together by so disorganized a medium, that on a small stream of water being poured upon it from the distance of a few inches only, it became entirely fluid. He had seen cases of paraplegia from destruction of the spinal cord, but in no case had he seen such complete destruction as was present in this case.

Dr. **Todd** was led to infer that the spinal cord was not so extensively affected during life, from the fact of emotion affecting the lower limbs. He should regard the changes as occurring post mortem, or just before death. It did not, however, follow, that because it was softened, its continuity should be destroyed. He regretted that no microscopical examination had been made. This might not, perhaps, have decided distinctly the question of continuity; but if the vesicles of the grey matter and the tubes of the nerves could be distinctly traced, there would be a strong presumptive proof that continuity was not destroyed.

Mr. **Tatum** said that we never for the future could put any confidence in any appearances observed post mortem, if we laid such stress, as had been done in this case, on the changes which took place in the body between death and examination. All structures, though not in an equal degree, must undergo change, if one did; and hence any appearance observed after death was merely fallacious.

Dr. **Marshall Hall** having been repeatedly and pointedly alluded to, rose and said,—If I have been slow to speak on this occasion, it is not because I do not highly value the communication before the Society, but because I found it difficult to embody, in the few observations to which each speaker must limit himself, all the suggestions to which it has given rise in my mind. Notwithstanding the post-mortem appearances in this case, it is impossible to admit the idea that a severed state of the spinal marrow is compatible with the occurrence of movements, the result of emotion, in the inferior extremities. Movements from reflex or diastaltic action, or from direct irritation, might occur if the disease were so situated as to leave a portion of the spinal marrow intact. But the author distinctly states, that the movements were those induced by emotion. Such a pathological fact would be at variance with all experiment. Now, Sir, an experiment performed with due caution is free from all the doubts which are attached to cases of disease in which it is difficult to ascertain what organic change may occur during the last hours of life, or what degree of disintegration may be added to what existed previously during the process of opening the spinal canal, a process attended with difficulty. I myself once proposed an instrument for this purpose, consisting of a projecting point to be inserted within the spinal canal, and of a chisel, which was struck with a hammer. Fearing that this manipulation might induce apparent softening of the tender texture of this nervous centre, I discarded this instrument, and have since devised one of a different kind, consisting of a curved cutting blade, acting as a lever upon a fulcrum laid across the spine. The case before us appears to have combined rheumatism, endocarditis, and choreic movements. Whether these existed together as mere coincidences, or were related, in any degree, as cause and effect; and whether those choreic movements were really chorea in the ordinary acceptation of that word, are questions entirely undetermined. In true chorea, the influence of volition is modified by emotion, and peculiar movements are produced by this modification. In paralysis agitans, the movements, though still the effect of emotion, are independent of the influence of volition. At first, both subside during sleep, except there be turbulent dreams. These movements, and those dependent on reflex and on direct action, are all peculiar and characteristic, and therefore diagnostic of different states of disease. The physiology is become diagnosis, and we all know that diagnosis is that pivot on which all legitimate practice turns.

A paper was read by Mr. **Prescott G. Hewett**, entitled,

ACCOUNT OF A CASE ILLUSTRATING THE DIFFICULTY OF DIAGNOSIS OF TUMOURS OF THE SUPERIOR MAXILLA.

The subject of the case was a young man, aged twenty-five, who was admitted into St. George's Hospital, in May, 1848, under the care of Mr. Hewett, with a tumour of five or six years' duration, in the superior maxilla, encroaching somewhat on the orbit, and extending into the pharynx. The patient had suffered repeated attacks of hæmorrhage from the nostril on the affected side, the last of which, occurring a little time before his admission, had reduced his strength. After consultation it was determined to remove the tumour, which it was thought had originated in the antrum. During the operation, it was found, however, that the tumour, which was of a fibrous nature, originated from the roof of the nasal cavity, and had compressed the antrum, so as to diminish its size. It had entered the orbit through the spheno-maxillary fissure, and passed backwards into the sphenoidal sinuses. Chloroform was administered previously to the operation by Dr. Snow, and a very little was given during its performance. In the course of the operation, syncope ensued, and the patient was laid down, and a stimulant given to him. Having rallied from the fainting, the operation was again proceeded with, but the state of syncope returning, the patient was removed into an adjoining room, and placed on a bed. The operation was by no means a protracted one. The patient fainted in the middle of it, and it was discontinued. Yet the whole time which the operation occupied, including the period of syncope, did not exceed twenty minutes. He recovered his consciousness, but remained in a state of collapse, and died about an hour after the operation. As there had been difficulty of breathing just before his death, the crico-thyroid membrane was divided, and artificial respiration performed through the opening, as a last resource, but without effect. As soon as the membrane was divided, some frothy blood issued from the larynx. At the post-mortem examination, portions of the tumour were found to be still adhering to the sphenoid bone. The trachea and bronchi, down to their minutest ramifications, contained frothy blood, and there were spots of ecchymosis throughout the lungs, denoting that some of the blood had entered the air-cells. The author of the paper considered that this blood must have got into the lungs during the operation, and that the chloroform might have impaired the irritability of the glottis so as to favour its admission. He should be deterred from employing that agent in future cases of the kind.

After a few remarks on the diagnosis of the tumour, the discussion, which was extremely interesting, turned entirely on the effects of chloroform in this case. The arguments against the chloroform having been instrumental in allowing blood to enter the windpipe were, that the difficulty of breathing did not come on till some time after the operation was discontinued; that this agent had been employed in many similar operations, without ill consequences: one surgeon in extensive practice, stating that he had used it in the removal of five or six such tumours since the occurrence of this case; that it had also been employed in a great number of other operations about the mouth and nose, attended with hæmorrhage, as those for epulis, nasal polypi, hare-lip in children, with the patient lying on the back, and cases in which a number of teeth were extracted. It was argued, also, that the glottis, being an organ of respiration, retains its sensibility as long as the patient continues to breathe; and experiments on animals were adduced in confirmation of this. It was said, therefore, that if the blood in this case did not enter the air-passages during the artificial respiration, performed by means of an opening in the larynx, it must have entered whilst he was moribund. On the other side it was stated, that there was scarcely any bleeding from the wound made in opening the larynx at the time of death; that blood had not been known to enter the lungs during syncope, in other operations of this kind; and that chloroform would be likely to impair the irritability of the glottis, as the muscles of frogs were less influenced by galvanism after they were killed by chloroform than by other methods. Some of the speakers considered that the chloroform might have caused death in this case, by a poisonous action, or by its depressing the action of the heart, and thus contributing to aid the loss of blood and shock of the operation, in producing a fatal result. But it was replied that when chloroform has caused death, the patient has died immediately, and not after the lapse of an hour; consequently, if it had contributed in any degree to the death of this patient, it was only by its aiding the accidental admission of blood into the lungs. It was stated also that at St. George's Hospital, where æther and chloroform had been used ever since their introduction, in all important operations, no ill result had ensued, unless it were in this case; that in St. Bartholomew's Hospital, chloroform had been applied in above 6000 cases, without accident; and that, in fact, no bad result had followed in any but the two Borough hospitals; and it was elicited that in the fatal case at St. Thomas's, the chloroform was administered by the surgery-man, whilst one of the dressers watched its effects, no regular person being appointed to the duty of its exhibition. The discussion was very appropriately wound up by a surgeon of eminence remarking, that one thing seemed to have escaped the recollection of the various speakers—viz., that deaths in this way were by no means uncommon, during such operations, before the introduction of chloroform or æther.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, Dec. 3, 1850.—DR. LATHAM, PRESIDENT.

Mr. CANTON exhibited a specimen of

OSSIFICATION OF THE PERICARDIUM.

MASTER E. B., aged eleven, in Feb. 1844, suffered from a severe attack of acute rheumatism; a fortnight after its commencement, pericarditis supervened, and was treated by leeching, blisters, mercury to ptyalism, colchicum, &c. The following May the medical attendance ceased. Auscultation gave evidence of fibrinous deposit on the pericardium, and there was turbulent cardiac action, with dyspnœa. In all other respects he enjoyed tolerable health until Nov. 1845, when pain in the region of the heart required antiphlogistic treatment, and blistering for a short time. In April, 1846, he became the subject of a severe attack of hæmoptysis, which, being subdued, was followed by ascites—this latter was with difficulty removed by diuretics in June. In June, 1847, ascites reappeared, but was again removed by the same plan of treatment. In Sept. 1848, he was again dropsical, and continued so for several weeks. The ascites occurred at the close of 1849, accompanied by a severe attack of hæmoptysis, which for several days threatened his existence, but was ultimately stayed by gallic acid. His sufferings during the last three years had been very severe, and from this date (Nov. 1849) were still augmented, and obliged him to pass several successive nights supported in a chair. There was great abdominal distention, attended at times with severe pain in the epigastric region, œdema of the lower extremities and of the scrotum: a more formidable attack of hæmoptysis again took place in July, and lasted ten days. It now became manifest that the long-continued sufferings of the patient were drawing to a close; the dyspnœa became painfully urgent; the ascites was no longer amenable to treatment, and the violent action of the heart prevented his sleeping. Repeated auscultation led to the conclusion that extensive adhesion of the pericardium was present, with hypertrophy of the heart; some disease of the valve was suspected. During the whole of his illness the pulse maintained a strong, full, and rapid beat, and lessened the suspicions of valvular disease. The carotid and temporal arteries pulsated violently; a dry cough repeatedly harassed him, especially towards the close of his existence. Notwithstanding his disease and sufferings, he grew in stature, and was, at the time of his death, six feet in height; he died rather suddenly on the 11th of Sept. 1850.

Post-mortem Examination.—The anterior mediastinum was filled with old, tenacious lymph. The pericardium was firmly united to the heart, and in the adhesions, bony matter, forming a ring, was deposited, encircling the organ between the auricles and ventricles. The ring in the chief part of its circumference was an inch in breadth. The heart much enlarged; valves on the right side healthy; on the left, somewhat thickened.—*Abdomen:* The whole surface of peritonæum overlain with firmly adherent lymph obscuring and agglutinating the viscera. Liver enlarged;

kidneys healthy; ascites to a small extent, with a little recent fibrin on the small intestines.

Dr. O. Ward exhibited—

A PORTION OF A GALL-BLADDER DISCHARGED EXTERNALLY.

Miss T——, aged forty-eight, has had a very severe cough and purulent expectoration, attended with signs of a cavity in the left lung, and other symptoms of phthisis, for more than twenty years. About eight years ago she had an attack of vomiting and diarrhœa, with faintness, when a tumor was discovered on the right side of the abdomen, but apparently unconnected with the liver. As it increased in size, the tumor passed more into the centre of the abdomen, leaving a marked sulcus between it and the edge of the liver. For twelve months it had descended toward the right iliac region, where it pointed, and burst in April last, a little lower than the edge of the transversalis muscle, and midway between the spine of the ilium and the pubes. The discharge at first was very offensive, consisting of pus, followed in a few days by numbers of hydatids, of various sizes, from that of a pea to that of a turkey's egg, and some very minute ones, in clusters, with pedicles like a bunch of grapes, and striated externally. In about five weeks the hydatids were all expelled, and the pus became healthy and less offensive. The opening continued to discharge till the 11th of August, when she had another bilious attack, and the discharge ceased; the abdomen became tense and tender over the right side; occasional rigors took place; and on the 15th the orifice reopened, discharging pure bile. This continued to flow, to the amount of about a pint a day, till the 24th, when a slough came away, which, on examination, proved to be a portion of the gall-bladder, having small calcareous plates imbedded in it, similar to some that had passed occasionally from the wound. The bile has continued to pass in greater or less quantity, almost uninterruptedly, to the present time.—There is now about a drachm passed in twenty-four hours. The patient's health has varied considerably, as she is sometimes able to go about the house, and again, has been reduced so low, as to not be able to sit up in bed without support.

Dr. Garrod exhibited for Mr. Denny

A PIECE OF BONE AND TEETH, WHICH WERE DISSECTED FROM BETWEEN TWO LAYERS OF MEMBRANE FORMING THE WALLS OF AN OVARIAN CYST, TAKEN FROM A GIRL AFTER DEATH.

Eliza F——, aged twenty-two, single, was admitted at the Stoke Newington Dispensary, under Dr. Duesbury, Aug. 9th, 1850, with dropsical swellings, distending so uniformly the abdominal parietes, that it was difficult to diagnose whether it was ovarian disease or ascites. She complained of weakness and inconvenience from the weight and size of the body. She stated that she had been ailing for three years and upwards, during which period she had suffered much from pain in the left side of the abdomen, but had not perceived her body enlarging more than two years; that it had increased much more rapidly of late. She attended at the dispensary, and slightly improved in health under tonics and diuretics, until a fortnight previous to her death, when she was attacked with peritonitis, and died on the 7th October. Mr. Price attended her for a considerable period for what he considered to be an ovarian tumour: and four months previous to her being admitted a patient at the dispensary, (in consequence of the lady with whom she lived as servant having suspicions of her being pregnant,) he sent her to Dr. Lee, who pronounced the uterus to be unimpregnated, and confirmed the previous diagnosis as to the existence of an ovarian tumour. On opening the abdomen, the left ovarium was found to have been converted into a cyst, occupying the greater portion of that cavity, the viscera of which were pressing in every direction. A few recently deposited threads of lymph extended from its anterior surface to the peritonæum, lining the abdominal parietes; otherwise it was perfectly detached, except by its peduncle, which was not larger than the little finger, and consisted merely of the obliterated Fallopian tube, enlarged vessels, and peritonæum.—The cyst, together with the uterus and its appendages were removed; and on opening the cyst, from three to four gallons of a cream-coloured fluid escaped, suspended in which were numerous flakes of fatty matter; it also contained a conglomerate mass as large as the fœtal head at six months, consisting of hair, (from four to five inches long,) and this fatty substance matted together, besides many smaller pieces of the same substance. The cyst was divided by trauverse bands, and also into pouches or smaller cysts, opening into the common cavity; adhering to the walls in places were considerable quantities of the fatty matter, and attached hair, similar to that in the mass; and between two layers of the membrane, forming the walls of the cyst, on the left side, was the specimen produced. The teeth are in every respect perfect, with their fangs inserted into the processes of the bone, resembling the alveolar processes of the jaws. The right ovarium was rather larger than usual, congested, and contained several small cysts, the size of a pea, filled with fatty matter. The uterus presented the appearance in all respects of that of a virgin, and healthy, with the exception of slight congestion, which might be merely post-mortem. Dr. Baillie mentions similar fatty matter, hair, bone, and the rudiments of teeth, (but without fangs,) having been found in ovarian tumours, and under circumstances leaving little doubt that they had been formed independently of impregnation. One case occurred in his own practice. In another, published in the *Philosophical Transactions*, this change was found in the ovarium of a child, whose age did not exceed twelve or thirteen years, with the hymen perfect, the uterus not increased in bulk, as is usual at puberty, together with the other signs of puberty wanting. From the fact of the uterus being totally devoid of all those changes that follow impregnation, whether the fœtus be developed within its cavity, or, as in extra-uterine fœtation, within the ovarian or Fallopian tube, from the respectability of the girl's parents, together with the good character she herself had borne, and her anxious desire that her body should be opened, for the satisfaction of her friends, in consequence of the suspicion her appearance had excited, Mr. Denny was induced to believe that in this case there had been no impregnation. The consideration of this case suggests whether an ovum which the stimulus of the catamenial period caused to burst from the Graafian vesicles, and which was prevented from passing off with the menstrual discharge by the impermeability of the Fallopian tube, might not become adherent to the lining membrane of the ovary, or Fallopian tube, and thus obtain nourishment, setting in action a power which may be inherent in it, of developing the structures of the body, but in an incoherent manner, without the power to regulate the formation, or to produce a circulating system, or nervous centre, necessary to the perfect development and independent life of the fœtus: the latter power may emanate from the male, exerting an influence in some way analogous to the electric influence exerted in crystallization, of attracting and arranging the particles, so as to give a definite form, and thus to characterize the individuality of a salt. The statistical information furnished by the record of these cases, especially with evidence of existing virginity, may, by affording data for physiologists, enable them at some future period, to throw light upon the functions of the ovary, and upon the elements supplied towards the formation, and the power exercised over the development, of the fœtus by the sexes individually, and may also prove of practical importance in removing the odium which a supposition of the necessity of impregnation in such cases as the above might cast upon the fair fame of the patient.

VALVULAR DISEASE OF THE HEART.

Mr. Coulson exhibited a heart, taken from a man aged fifty years, who had suffered for many years from chronic bronchitis and dyspnœa. The dyspnœa became very urgent for thirty hours before he died. On examination, there was found general serous infiltration into the tissues, not amounting to anasarca; considerable effusion appeared in the right pleural cavity, and the left pleura pulmonalis was entirely adherent. The pericardium contained three ounces of sanguineo-serous fluid; the liver was congested, and the kidneys were large and mottled. The weight of the heart was twenty-three ounces avoirdupois, and the aortic valves were very extensively diseased, one of them being partly separated from its attachments, so as to allow a portion of the curtain to be retroverted. The other valves were thickened, and studded with vegetations, and a large part of the free fold of the mitral valve was covered by a thick and regular layer of recent lymph. The left ventricle was greatly hypertrophied and dilated.

Dr. Peacock remarked, that the heart exhibited afforded a very characteristic example of obstructive and regurgitant aortic valvular disease. The sigmoid valves were all much thickened and indurated, and must thus for a long time have formed an obstruction to the flow of blood from the ventricle into the aorta. When the attachments of the right valve, which was the most extensively diseased, gave way, and allowed its curtain to be retroverted, an apertnre had been created, by which, during the diastole of the heart, the blood must have freely regurgitated from the aorta into the ventricle. To the operation of these two causes, the large amount of hypertrophy and dilatation of the left ventricle was to be ascribed. The patch of lymph on the free fold of the mitral valve lay directly in the course of the regurgitant current, and was probably a simple deposition from the blood. The specimen further afforded an example of what had been termed "aneurism of the valves." In the curtain of the posterior sigmoid valve there was found a small sac, which opened into he corresponding sinus of Valsalva; and, again, in the free fold of the mitral valve, there was a similar though still smaller sac, which communicated with the venricle.

Mr. Toynbee exhibited a specimen of

NEUROMA OF THE AUDITORY NERVE,

hich was removed from a man aged sixty. The only ymptom indicative of its presence during life was a iminution of the power of hearing. The diseased rowth consisted of a white tumour, about the size of small bean, which occupied the internal auditory meas, and projects about a line beyond its posterior border. The shape of the tumour is conical, the small exemity being situated at the anterior part of tho meas. Its texture is firm posteriorly, and upon being t into, presents but little cellular tissue; anteriorly, is softer. The tumour is attached to a portion of e auditory nerve supplying the vestibule, the fibres of hich enter its middle part, and emerge at its anterior tremity, entering the vestibule, with filaments from e healthy portion of the nerve. The nerve supplying e cochlea is unaffected by the tumour; the portio dura s on its upper surface. Upon examination with the microscope, the tumour, at its anterior part, was found to be composed of distinct nerve-tubes, which assumed the varicose form upon the slightest pressure; and of others, about the same size, but more opaque, presenting in their walls distinct nucleated cells, and having the appearance of nerve-tubes in the process of development, as delineated by Schwann. These two kinds of nerve-tubes were about equally distributed through the anterior part of the tumour, and between them rounded cells were interspersed. The posterior part of the tumour was observed to consist of fibres, running parallel to each other; they were not so large as the tubes in the anterior part; some of them present distinct nucleated cells.

Dr. Quain exhibited a specimen of

FIBROUS AND FATTY DEGENERATION OF THE HEART,

with the following history:—Lady H——, aged fifty-eight, on rising from bed, on the morning of October 21st, went to the night-chair, for the purpose of emptying her bladder; then laid down again, and died immediately. When thirty years of age, she went to India, where she remained fourteen years, without any serious illness or inconvenience; and she returned to this country some fifteen years ago. She enjoyed good health, save that she complained of bilious headache occasionally, until about seven years ago, when, in her fifty-first year, the menstrual function being still regularly performed, she had an apoplectic seizure one evening, after returning from a concert. This caused a confusion of intellect, and a loss of speech, which lasted for eight or nine days, but no general paralysis of sensation or motion. About eighteen months after, she had a second, but a less severe attack, followed by slight weakness of the right upper and lower extremities. Within a similar period, she had a third attack; this more resembled the first. She was then in her fifty-fourth year, and the menstrual functions began to be irregularly performed. Each attack was treated on the usual antiphlogistic plan, and with mercury, and it was remarked that she bore bleeding badly. Soon after the first attack, about four years ago, she began to complain of shortness of breathing, on exertion. This, and the partial paralysis, interfered with exercise, and she became stouter. She continued pretty well until October, 1849, when she was one night seized with a most distressing attack of difficult breathing, which lasted about five hours, and was relieved by æther and ammonia. She had no return of the distress, and did well, with the exception of an attack of ordinary bronchitis, in February last, until the commencement of September last, when, being at Tonbridge Wells, she had several attacks, at intervals of two or three nights, of the same difficulty of breathing. For three of these attacks she was rather freely bled. As she still continued very ill, she came to town, and Dr. Quain saw her soon after with Mr. J. C. Langmore. She was in bed, suffering from a sense of faintness or exhaustion consequent on a distressing attack during the night. These attacks generally came on about two o'clock in the morning, and were of a very alarming character. The extremities and face became cold and livid, the pulse extremely feeble and irregular, and the sense of impending suffocation most urgent; a severe pain in the region of the heart and across the chest came on as the sense of suffocation became less. The pulse was 68, and compressible; it was generally about 60. She was free from giddiness or noise in the ears. She slept well, except when disturbed by the attacks, and was not subject to faintness. She complained of slight pain in the region of the liver. The motions were pale and lumpy. Mr. Langmore described the urine as healthy. The heart's impulse was weak, but the dulness in this region was more extended than natural; the first sound was remarkably low and prolonged; the second clear, and heard over a considerable extent of the upper part of the chest; there was no murmur; some slight sonorous rhonchus was heard in the back. Considering the age, conformation, and sedentary habits of the lady, and also the character of the symptoms, for which, in the physical signs, no other explanation could be found, the conviction was, that the disease was fatty degeneration of the heart to a moderate extent; an opinion strengthened by the presence of an arcus senilis. The result justified the opinion: she died in about five week's after my seeing her. The treatment consisted of mild mercurials, with taraxacum and aperients, alkalies, with bitter tonics, and a few leeches to the region of the heart, to be followed by iron and antispasmodics during the paroxysms, which treatment produced beneficial effects, so far that the fits became much less frequent and severe before her death.

Post-mortem examination.—The body and viscera generally covered with much fat; the calvarium thick, firmly adherent, and deeply marked inside by vessels; there was more serum than usual in the cavity of the arachnoid and ventricles. On slicing the brain, vestiges of the causes of the three apoplectic seizures were found. One, a small spot, of the size of a pea, situated in the fore part of the left hemisphere, towards the base, was composed of a transparent greyish substance, like cellular tissue, infiltrated with serum. In each corpus striatum, towards its uppper part, was found an orange-coloured spot about the size of a haricot bean, soft, and, in the left, having somewhat of a cystic appearance. The white fibres were here broken up and distorted. The arteries of the base were studded with atheromatous or fatty matter. The lungs healthy. The heart presented rather more fat than usual on the surface, and might weigh about fourteen ounces; the anterior branch of the left coronary artery was extremely ossified; the right auricle was dilated, thickened, and filled with dark blood; the right ventricle not dilated, but its walls thickened; their tissues appeared healthy; the left auricle and ventricle were contracted and nearly empty; the wall of the left ventricle, at the thickest part, measured thirteen lines; the valves healthy; the muscular substance of the septum, towards the apex, and the wall of the left ventricle, towards the anterior surface of the heart, presented the pale buff-colour of fatty degeneration, which passed into and contrasted with the healthy flesh-colour of other parts of the heart. A species of ecchymosis, scarcely amounting to hæmorrhage, appeared in the diseased part of the wall of the left ventricle. Under the microscope, the usual characters of fatty degeneration were found, but there existed also a large quantity of a fibrous texture mixed with the fatty degeneration. The liver was enlarged, lobulated, hard, and moderately granular. Both kidneys were rough and granular; one was larger, the other smaller, than natural. The importance and the possibility of recognising this disease during life was pointed out even when not very considerable. The treatment, which seemed to a certain extent to have controlled the disease, was referred to, and allusion was made to the relation which existed between the ossification of the coronary artery and the portion of heart affected, showing clearly that the degeneration was due to impaired nutrition.

MEDICAL SOCIETY OF LONDON.

SATURDAY, Nov. 30, 1850.—DR. J. R. BENNETT, PRESIDENT.

MR. CANTON exhibited a specimen of

ANEURISM OF THE AORTA, SITUATED ABOVE THE SIGMO VALVES.

The patient, a lady, aged thirty-seven, had been fo some time under the care of Dr. Roe, suffering fro occasional obstruction to respiration, depression o spirits, pain between the shoulders, restlessness a night, and palpitation of the heart. Mr. Leonard wa called to her suddenly, and found her dying. She expired very shortly after he saw her. At a post-mortem examination, an aneurism was found placed immediately above one of the aortic sigmoid valves. The aperture of communication was nearly the size of a shilling; fibrine occupied the sac. On slitting up the pulmonary artery, the aneurismal swelling was found to encroach materially on its cavity, and to have press in such a manner upon one of its semilunar valves as to have obliterated one-half of the pouch it covered, by consolidating a part of the valve with the wall of the vessel. The arch of the aorta was enlarged, and the inner membrane universally raised, in an irregular manner, by deposit beneath it. Above the aneurism were two or three openings through this coat, of about the size of a pin's head, and one of them led into a smal compressed cavity between the tunics. The disease i the vessel ceased abruptly, and by a circular line, ju opposite to the origin of the first aortic intercos artery.

Mr. MIDDLETON exhibited a specimen of

SCIRRHUS OF THE LUNG,

respecting which, during life, there had been a divers of opinion. It was suspected by some practitioners t be fluid in the pleura; by others it was believed to a solid mass. The patient had suffered under the di ease for some time, and died from gangrene of the o posite lung.

Mr. HUNT read a paper on the

MERCURIAL TREATMENT OF SYPHILITIC ERUPTIO

of which the following is an outline:—By the t "syphilitic eruptions" it is intended to designate those morbid affections of the skin which are al preceded or accompanied by any of the well-kn symptoms of syphilis or pseudo-syphilis, as wel eruptions of a copper colour, which can be traced t hereditary syphilitic origin, thus assuming that t is but one syphilitic poison, the various effects of w are determined by circumstances. All these erup are susceptible of cure by mercury, and liable to gravation under its excessive or injudicious use they rarely get permanently well without it; but rything depends upon the mode of administra which should be such as to secure two desi safety and efficiency, the latter being the test o former. Safety is to be secured by daily wat and by suspending the course as soon as the or bowels become affected in the slightest d or the disease aggravated by the mineral. Eff is best secured by two or more energetic cours suddenly short when toxical symptoms appear, r sumed when the system has recovered. The casional aggravation of syphilitic symptoms u mercurial course is explicable on the theory, t system, having become prostrate under the co effects of the mercury and the disease, has less to tolerate the latter, which, though less virule nature than it was prior to the exhibition of has yet power enough to prey cruelly on a v longer capable of resistance, the symptoms being as purely syphilitic as ever, and as easily cured by mercury. Every mineral used in medicine has certain peculiarities of action, without a familiarity with which we use it at great disadvantage. Let us, for instance, contrast the action of mercury with that of arsenic, and see how clearly practical results are deducible:—

Arsenic	*Mercury*
Produces its maximum amount of good by slow degrees.	Effects its salutary purposes often suddenly, always within a limited period.
Is a cumulative poison.	Has no cumulative effects after the first few doses.
May be given until the patient cannot bear the $\frac{1}{100}$ of a grain.	May be given until enormous quantities prove absolutely inert.
Affects the nervous system first, then the vascular.	Affects the vascular system first, then the nervous.
Acts through the circulatory system.	Acts on the extreme branches of the organic nerves.
Should therefore be given cautiously, in diminishing doses.	Should be poured in suddenly, by way of shock, increasing the dose with every successive course.

The success of Mr. Langston Parker, in administering mercury by way of fumigation is doubtless to be explained on the principle of rapidity of absorption, and consequent suddenness of effect. But is mercury necessary at all? Will not all the forms of primary and secondary syphilis yield to alterative treatment? They will. But are they cured permanently? Do not patients so treated in hospitals return again and again? The spontaneous recoveries from syphilis, as well as the alterative cures, appear to consist merely in a tolerance of the disease for a time. This tolerance may exist for a month or a year, or for life, but even then the children may become affected by the disease. A father, without affecting his wife, may transmit to his children a syphilitic taint. The non-mercurial treatment of syphilis may therefore be regarded as inefficient, tending to infect large masses of the community with hereditary syphilis; of the truth of which, every generation will probably present accumulating evidence.

An animated discussion followed, in which Dr. Forbes Winslow, Mr. Dendy, Mr. Hancock, Dr. Daniell, Dr. Crisp, Mr. Travers, jun., Mr. Dampier, Mr. Robarts, Dr. Golding Bird, Mr. Nunn, and Dr. Snow, took part. In this discussion Mr. Hunt's principles and practice were for the most part abundantly confirmed, not one speaker advocating the non-mercurial treatment of syphilis, or offering any proof of its efficacy.

Dr. Daniell did not consider mercury as *universally* applicable or necessary.

Mr. Travers related the case of a lady affected with syphilis, who had been twice salivated by mercury, internally exhibited without benefit,—the disease afterwards yielding readily to inunction of the strong mercurial ointment.

Mr. Robarts insisted upon the necessity of restoring the strength in anæmia, and of depletion in plethora, during the exhibition of mercury. He would use the warm bath in inflammatory eruptions; and remarked, that where mercury failed, there was probably some latent error in the system.

Dr. Golding Bird cordially approved of the views Mr. Robarts, and considered that in infantile syphilis the brown sesquioxide of iron was an important addition to mercury, and tended to prevent relapses in the form of condylomata.

Mr. Dendy passed a high eulogium on Mr. Hunt's paper, but doubted whether the symptoms produced by mercury, were not occasionally mistaken for syphilis.

Mr. Nunn inquired if the author considered secondary syphilis a blood-disease? If so, why were some forms curable by mercury, and others by hydriodate of potash? and how could mercury cure it, by acting on the organic nerves?

Dr. Snow had frequently seen the disease in infants whose parents appeared sound, thus confirming Mr. Hunt's views of hereditary transmission of the disease.

Mr. Hunt, in his reply, suggested a caution, in reference to the administration of mercury, that *daily* watchfulness was necessary, and that it was better to give no mercury at all, than to see the patient only once a week. He expressed much gratification at the turn the discussion had taken, and his agreeable surprise that there were not more advocates for the non-mercurial treatment.

Saturday, Nov. 23, 1850.—Dr. Risdon Bennett, President.

The Society's rooms were again crowded this evening. Several new fellows were proposed, elected, and admitted.

Mr. Walton brought forward a

CASE OF PAROTID TUMOUR.

A lady sought his advice in January, 1848, on account of a small tumour in the situation of the parotid gland, that had attracted her notice some few months back. As her medical attendant had applied to it all the substances that are supposed to have influence in reducing tumours, without any good effect, and as the tumour produced no inconvenience, he advised her to let it alone till it became painful, or showed activity in growth, and in either event to call on him. In six months she returned with suppuration over the tumour: the abscess was evacuated, and the parts resumed their former state. The recurrence of such suppuration at intervals of about three months, convinced him that the tumour was the offending cause. He strongly urged its removal, but consent was not obtained, till a very severe attack of suppuration, in the course of the last summer, shattered her considerably, and induced her to desire its removal. On the 20th of October, 1850, with the assistance of Mr. Coulson, Mr. Walton operated. A cast was exhibited, to convey a correct idea of the form and outline of the swelling prior to operating. The tumour, after removal, was about the size of a chesnut, and seemed to be made up of a series of cysts, some of which contained granular matter, and one or two larger ones, which were distended with a glairy fluid, were cut into during the reflection of the skin. Mr. Walton had previously expressed his opinion to Mr. Coulson that the mass contained cysts. The operation required great care, for the tumour was very tightly wedged between the ramus of the lower jaw and the mastoid process. There was but little bleeding during the operation, but secondary hæmorrhage ensued apparently from the whole internal surface of the wound, and nothing that was tried to check it answered, except stopping the cavity tightly with scraped lint, and using strong pressure. The patient has made a good recovery, and without the slightest facial paralysis.

ARTIFICIAL OVIDUCT FOR THE CURE OF OVARIAN DISEASE.

Mr. I. B. Brown exhibited a preparation taken from one of the patients on whom he performed his operation for artificial oviduct in the treatment of ovarian dropsy, as lately detailed by him before the Society. The case was that of Mrs. L., who lived between four and five months after the operation, and died of paralysis and disease of the brain. This preparation showed that perfect adhesions had been established between the multilocular cysts and the abdominal parietes; the largest cysts having been extruded, *en masse*, in a decomposed state six weeks before death. The fistulous opening was then only large enough to allow the introduction of a probe. The cyst into which this opening was made was undergoing the necessary process for destruction, and it was evident that, had she lived, the breaking down of three other small ones would have been accomplished. In this specimen, the uterus was healthy, and the other ovary free from disease. Mr. Brown remarked that it clearly showed the practicability of accomplishing the formation of an artificial oviduct in similar cases of ovarian dropsy; but that the best mode of performing the operation remained to be tested by experience. He was of opinion that in future cases he should make a much smaller incision at first, and probably apply a piece of sponge over the opening during the escape of the fluid in the after-treatment, in order to prevent the admission of air. He also remarked, that he was glad to be able to add most valuable testimony in favour of the *principle* of the operation. Since he read his paper, he had heard from Dr. Fergusson that the operation had been performed several times in Paris with success, but that adhesion of the sac to the abdominal parietes was effected by *pinning* the cyst to the walls of the abdomen some days before making the opening. He had also heard from Mr. A. Ure of a case *successfully* treated by the *lateral incision* in Germany, and in this week's number of the *Provincial Journal* a case was recorded of an "ovarian tumour cured by incision, followed by suppuration," by Dr. Prince, of St. Louis, Missouri. It was taken from the *American Journal of Medical Science*. Mr. Brown hoped, therefore, that now the principle of the operation was so extensively acknowledged, not only in this country, but in France, Germany, and America, the surgeons of this Society especially, and of England in general, would seriously inquire into it and report their experience to the profession.

A resolution, on the motion of Dr. Routh, seconded by Mr. Clarke, was unanimously carried, recommending to the counsel that the committee on obstetrics should be directed to inquire into the treatment of ovarian disease by operative procedure.

INHALATION OF THE VAPOUR OF MEDICINAL SUBSTANCES.

Dr. Snow placed on the table some inhalers which he said had been in use at the Hospital for Consumption at Brompton, between one and two years ago, for the inhalation of various medicines. One of these consisted of a metal chamber with a floor of talc, under which was placed a spirit lamp. A small porcelain capsule containing the substance to be inhaled was placed on the talc, exactly over the flame, and the fumes given off were inhaled through a tube and face-piece provided with valves. The extracts of opium, stramonium, aconite, &c., had been inhaled in this way—the first of these in a great number of cases. The gum resins could also be inhaled in the same manner; and by employing a rather larger dish, various substances could be inhaled along with the vapour of water, as iodine, creosote, camphor, and benzoic acid. Half an ounce of water would supply as much vapour as the patient could conveniently inhale in half an hour, and by using this small quantity be inhaled from a saturated solution. This inhaler, with a slight modification, was used for mercurial inhalation. Another form of inhaler consisted of a similar face-piece, and a short bent tube of metal, lined with bibulous paper. It was first contrived for the inhalation of chloroform in medical cases and midwifery, but had been used for inhaling hydrocyanic acid, conia (the volatile alkaloid of hemlock,) and creosote, when these medicines were inhaled at ordinary temperatures, without the vapour of water. A third form of inhaler consisted of a three-necked Woulfe's bottle with wide apertures, provided with a flexible tube and face-piece. It was used for inhaling iodine when breathed without heat or moisture; for chlorine, which was evolved from the chloride of lime, and when employed with a face-piece destitute of valves, it could be employed, without any medicine, for the purpose of causing the patient to breathe parts of the air twice over, and thus to respire an atmosphere in which the amount of nitrogen is proportionally increased, and also the amount of carbonic acid, unless the latter be removed by placing some solution of caustic potash at the bottom of the inhaler. Dr. Snow made some remarks on the doses and effects of the medicines employed.

CAULIFLOWER EXCRESCENCE FROM THE OS UTERI. WITH REMARKS ON ITS PATHOLOGY AND TREATMENT.

Dr. Cormack stated, that in Sept. 1847, he was requested to attended Mrs. G——, who was in her second pregnancy. She said that her general health was good; she had suffered from menorrhagia previously to her pregnancy, but this had been arrested, probably by gallic acid, prescribed in Edinburgh. She had a slight coloured discharge, monthly, during both her pregnancies. Up to the time of her confinement she made no complaint, and took much exercise. When he first saw her in labour, at five P.M. on the 28th of November, she had discharged a great quantity of watery fluid. On making an examination, he found that abundant hæmorrhage was going on, which was fast lowering the vital powers of the patient. On introducing the hand, he found a firm and somewhat elastic mass obstructing the vagina; it was felt to be attached around the orifice of the uterus externally, and chiefly to the anterior lip; the os uteri just admitted the forefinger. A strong solution of alum was injected, a compress was introduced, and the vagina plugged. At six A.M. on the 29th of November, the pains had become sharp and more regular; the tumour felt as a superficial roughness, with some more decided elevations. Nothing remarkable occurred for the next eleven hours, except a great drain from the seat of the disease of a dirty and faintly-reddened fluid, which, when profuse, was arrested or moderated by alum injections and using the plug. At seven P.M. the os uteri was considerably dilated; and at eight P.M., there was a sudden accession of hæmorrhage, he punctured the membranes. A living child was born at nine; the placenta soon followed, and the uterus contracted naturally. The next morning the tumour had regained much of its original condition. The patient appeared to go on well till the fourteenth day. At that time, in consequence of local pain, he examined the uterus, and found the tumour nearly in the same state as at the last examination. He now explained the nature of the case, and the probable necessity for operative interference, to which, however, the patient was reluctant to submit. Dr. Henry Bennett saw her in consultation on the twentieth day; and in consequence of pain at the base of the tumour, and of alarming hæmorrhage on one or two occasions, excision was proposed, but was objected to by the patient, Mr. Fergusson, who saw her some time after, discountenanced operative interference, from the improbability of accomplishing a radical cure. During the first part of this time the discharge had been abated by the internal use of gallic acid, and pain had been restrained by opiates; but at last the sufferings of the patient became so great, that Mr. Fergusson, at her earnest entreaty, excised the whole of the diseased mass on the 6th of February, 1848, anæstheaia having been produced by chloroform. For a month the patient seemed to go on well; but she then began to complain of shooting pains in the back and pelvic region, and the incised surface was found to have become granular. In two months from the operation there was a fresh excrescence, varying in size, and from which a profuse watery discharge flowed at intervals. As time advanced, alarming hæmorrhage occurred every two or three days. The pain was constant and agonizing. For several months before her death, she took daily from one to three ounces of the Edinburgh solution of hydrochlorate of morphia. Ulceration went on rapidly, and the patient died on the 17th of July. During the last three weeks, the attacks of hæmorrhage were so sudden and so violent as to render it necessary to keep the vagina almost constantly plugged.

Post-mortem examination, forty-eight hours afterwards.—The cervix uteri was absent. The vaginal end of what remained of the uterus, as well as the upper portion of the vagina, was ulcerated. The incised surface of the uterus was hard, and almost cartilaginous, and presented flabby granulations or vascular excrescences; these had also been observed on the portion removed. The body of the uterus was harder, and rather larger than natural; it was dark on its peritonæal surface. The urethra, bladder, ovaries, and rectum were free from disease.

He (Dr. Cormack) thought that an operation at an earlier period might have been attended with a somewhat different result. Such tumours, although remaining stationary for some time, at last inevitably terminate fatally, a fact strongly in favour of early operative interference. The painless nature of cauliflower excrescence in the early stages is, however, likely to prevent the suspicion of existing disease. The experience of Dr. Simpson, as shown in some cases reported before the Medico-Chirurgical Society of Edinburgh in 1845, was also an encouragement to operate. The rationality of attempting a cure by operation was further supported by the researches of Dr. Andrew Anderson, of Glasgow, who had found that a regularly formed membrane was necessary for the growth of cauliflower excrescence. This membrane he believed capable of forming a cell substance from the blood, and that the removal of this membrane, with the portion of the os uteri from which it grew, would hence be more likely to be successful. He would unhesitatingly advise excision at an early stage; and even later would in many cases advise the same course, but merely as a palliative, and as affording a very forlorn hope of cure. If an operation be decided against, the proper treatment would be astringent anodyne injections and the internal use of gallic acid. The disease was probably hereditary, the mother of this patient having died of what was described as cancer of the womb.

Dr. **Murphy** remarked, that Dr. Cormack's case was interesting in two points of view—first, from the remarkable freedom that there was from any signs of disease during pregnancy, the presence of mischief not being suspected until the occurrence of hæmorrhage shortly before the commencement of labour. It would seem that the malignant disease was stayed during pregnancy, and that labour was not interfered with by the tumour. The second point, and the most important one, was the question of treatment when the disease was progressing rapidly, as in this case, after delivery. Should we excise the surface of the uterus or not? His own experience on this point had been limited, but it went directly against such a proceeding, even at an early period; for although the disease might appear to be removed by the operation, it had, in the three cases which had come under his own observation, been reproduced, and death was the result. Then came this question—In cases of cancer or carcinoma, does the removal of the part remove the disease? He regarded cauliflower excrescence in the same light as cancer, that it was a constitutional disease, and was not benefitted at any period by excision. One point in the treatment of the case, which had been cursorily alluded to by Dr. Cormack, was worthy of especial attention—he meant the influence of pressure on the disease. Dr. Cormack had found, when he had plugged the vagina, and exerted pressure to arrest the hæmorrhage, the tumour was almost obliterated. It might be asked, then, if you could arrest the progress of the disease by compression, in the manner recommended by Dr. Walshe in carcinoma of the mamma?

Dr. **Henry Bennett** remarked, that having seen the patient a few weeks after the confinement, and having also assisted at the operation performed by Mr. Fergusson, he was able to corroborate the details given by his friend Dr. Cormack, respecting this interesting case. It had, however, struck him, on both occasions, that the disease appeared to belong, strictly speaking, more to that class of malignant uterine affections, to which the term polypoid is usually given, than to the disease described by Dr. Clark as cauliflower excrescence. These two forms of uterine tumour were very often confounded under the term of cauliflower excrescence, which was certainly by no means desirable; the distinction being an important one with respect to treatment. Polypoid malignant growths of the cervix uteri presented the characteristics of encephaloid disease, and were more or less fleshy and firm, and sometimes admitted of entire excision, although almost certain to return. Cauliflower excrescence was formed by a mass presenting a vesicular and cellular structure, which melted away under the knife or ligature, and all but disappeared spontaneously after death, leaving only a few shreds behind; it was also generally considered to be much less malignant than the former. He had only met with one case of it, which returned, proving fatal after he had removed the tumour by ligature. He had not either met with more than three or four instances of malignant polypoid growth, one of which was in a woman of Clare-market, in whose case he and Dr. Murphy removed the tumour. In all these cases, the operation had been unavailing, and the issue fatal. He should not, however, hesitate to again perform the operation, were the disease susceptible of entire extirpation, as there were cases on record in which the operation was said to have been successful, Dr. Simpson's especially. Moreover, his own experience on the subject was as yet limited. He would not, however, refrain from mentioning a fact which he had mentioned in his work on "Uterine Inflammation," that cancerous disease of the uterus never came under his observation even when he was the first person consulted, in its first stage of development, only in the more advanced or ulcerated stage, and that he had never seen a case of well-diagnosed cancer end otherwise than fatally.

Mr. I. B. **Brown** could not agree with Dr. Murphy, that cauliflower excrescence was to be regarded in the same light as cancer. The absence of any correct data on the important question of the real nature of cauliflower excrescence, and the fact of its being confined to the uterus, were strong reasons in favour of operating. The situation was favourable for the use of the knife, which might be easily applied. In his opinion, the great error in this class of cases was the delay which took place previous to the performance of an operation. The success would be influenced mainly by the early or late period of operating. He thought we were justified in operating, even to arrest the distressing hæmorrhage frequent in these cases, and to afford comfort to the patient. Did the operation render the patient, in the event of the disease returning, less able to contend with the malady than if no operation had been performed? If not, there was another argument in favour of operation. If the disease was constitutional, was there no discovery to be made as to the best mode of diet and regimen to arrest the progress of it? As to the influence of pressure, that would still admit of much question.

Mr. **Hird** said that in the discussion two kinds of cases had been spoken of—carcinoma and cauliflower excrescence of the uterus. Many cases of cauliflower excrescence had been operated upon by the knife and the ligature, and had got well. The disease Dr. Murphy had spoken of was carcinoma. If, as in Dr. Cormack's case, the disease was malignant, and in the system, what permanent advantage could be expected from the use of the knife? Pressure could not avert the progress of the constitutional affection. Still, however, we might be called upon to operate, to relieve pain and to prolong life. Pathologists considered that a tumour which was simple at its commencement might become malignant afterwards, from a variety of causes. The whole gist of the question as to operative procedure rested on this: if the disease was benignant at first, then an operation at that period would have every chance of success; but if it were malignant, then no good was to be expected from its removal. It was most important, in a discussion of this kind, to hold in view correct notions of diagnosis, not only that we might arrive at a definite conclusion respecting the nature of disease, but to prevent our resort to unnecessary operations.

Dr. **Murphy**, in explanation, said that he looked upon "cauliflower excrescence" in the light of cancer: not so, however, the "vesicular" form of disease alluded to during the discussion.

Mr. **Chippendale** was inclined to doubt the statement made in the paper, that the tumour had its origin in a basement membrane, as such membrane was not usually pushed off so far from its origin as in this instance. He thought the tumour more likely to be one of cell formation. If a growth arose from a basement membrane, excision would be usually successful, but if from cells, the disease was in the blood, and must end fatally. This was an important point of diagnosis as a means of guide in our future proceedings.

Mr. **Peter Marshall** related the case of a woman, twenty-seven years of age, whom he had attended in her second pregnancy. He had made an examination two hours after the commencement of labour-pains, and could detect no signs of the uterus. There had been no symptom of any disease during pregnancy, the patient only suffering from sickness. The child had to be destroyed before its removal could be effected. The patient died a few weeks after, and a large colloid tumour of the ovary was found. With respect to the detection of malignant disease in the early stage, he thought in two cases he had succeeded in doing so, even from its commencement, as he felt the slight mammary prominences on the surface of the uterus.

Dr. H. **Bennet** spoke on this point only from his own experience. When he had observed the disease in its early stage he did not think it was cancer.

Dr. **Sibson** regarded pressure as likely to be of service in a certain stage of the disease. Cancer had been arrested by such a proceeding. He then made a somewhat fierce attack upon Mr. Hird, for hypercriticism, which, however, the President and the Society considered to be quite uncalled for.

Mr. **Cormack**, in reply, said that he did not know whether the disease in the case was to be regarded as malignant or not. When the pain was great, and the hæmorrhage was rapidly tending to a fatal result, he did not think it could be doubted that an operation was proper. In his own case it had afforded great relief to the sufferer. With respect to the general question of operation in cases of cauliflower excrescence, he could offer no definite opinion; but certainly, if the conclusions arrived at by Dr. Anderson were correct, they offered much encouragement to the proceeding. He (Dr. Cormack) feared there was much reason to suspect that cauliflower excrescence was occasionally hereditary.

Saturday, Dec. 7.

GREAT HYPERTROPHY OF THE HEART.

Dr. **Snow** and Mr. **Marshall** laid before the Society some morbid parts from the body of a man aged between fifty and sixty, who had suffered for two years from anasarca with albuminuria, and also from cough and difficulty of breathing. The lungs were emphysematous throughout; the heart was hypertrophied and dilated to a great extent, although there was no disease of its valves. Before being emptied of blood, it measured nearly fifteen inches in circumference; and after being emptied and washed, it weighed nineteen ounces and a half. The walls of the left ventricle were an inch in thickness; the kidneys were in a rather advanced state of granular degeneration. Dr. Snow considered that the disease of the right side of the heart had been caused by the obstruction to the pulmonary circulation offered by the emphysema: and that the hypertrophy with dilatation of the left ventricle were due to the renal disease, which, allowing the blood to become charged with urinary salts, caused obstruction in the systemic capillaries. The disease of the kidneys had probably been caused by spirit-drinking, in which the patient had indulged: but it must have been aggravated by the obstruction in the venous circulation, caused by the emphysema of the lungs.

The **President** remarked, that he never recollected seeing so great an amount of hypertrophy in a heart, without some other cause than that mentioned by Dr. Snow having been in action.

Dr. **Routh** suggested that part of the "hypertrophy" might have resulted from coagulation of the blood in the heart. Such coagulation was apt to occur in cases where the heart was placed in spirit before the blood had oozed out of it.

Dr. **Snow** said that the heart he had laid before the Society had been repeatedly washed in water, and the blood carefully removed before it had been placed in spirit.

The **President** remarked, that there could be no doubt that the heart was very much hypertrophied.

IMPERMEABLE STRICTURE.

Mr. **Smith** exhibited a preparation, illustrative, as he considered, of the danger which might accrue to a patient by the operation proposed by Mr. Syme in certain cases of stricture of the urethra. The preparation was taken from a man who had suffered from stricture of the urethra for some time, and had died of dropsy. After death, a false passage, apparently* communicating with the bladder, was found, and this, it was suggested, had existed for some time. Now, if the thin, steel, grooved catheter which was used by Mr. Syme, had in this case been attempted to be passed, it was quite clear that no operator, however dexterous, would have been able to have determined by which passage the instrument had passed into the bladder. Hence serious mischief might have resulted. Mr. Smith then exhibited an instrument which he called Mr. Syme's catheter, which consisted of a steel rod, about as thick as No. 1, with a groove in it, and a handle somewhat twisted.

Dr. **Crisp** believed that the case before the Society would not have been operated by Mr. Syme, who excluded all cases in which there was a false passage. The case, however, he (Dr. Crisp) considered was an instance rather in favour of Mr. Syme's treatment, which might possibly have saved the patient. Nothing, however, had been said about the state of this patient's kidneys.

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* *We* say apparently, because, on examining the preparation, we, with many Fellows of the Society, were unable to determine whether, in reality, any false passage, properly speaking, existed at all. —Rep. L.

Mr. **Smith**.—The man died of dropsy. The kidneys were not examined. The false passage was made six months before the dropsy. After the passage had been formed, a surgeon, in passing an instrument, was as likely to go one way as another.

Mr. **Coulson** remarked, on examining the preparation, that an abscess had existed in this case under the pubis; no conclusion could be drawn from the case unless the parts were laid open.

Mr. **Chippendale** and Mr. **Childs**, in allusion to Mr. Syme's statement that no stricture was impermeable, had always succeeded, by great patience and care, in overcoming every stricture they had seen. The operation of Mr. Syme must be unnecessary if any kind of instrument could be passed, inasmuch as a larger one could be afterwards introduced.

Mr. **Canton** referred to Mr. Avery's urethral speculum as a valuable agent in cases of difficult stricture, and particularly where a false passage existed. By means of this instrument the exact state of the urethra could be ascertained.

Mr. **Smith** said the preparation was not his, and he could not lay the passage open. He believed, however, that he had correctly described the morbid condition of the parts.

CROWING INSPIRATION IN INFANTS.

Mr. Cox then read a paper on the crowing inspiration in infants. He commenced the subject by remarking the great frequency of nervous affections during infancy. He then proceeded to examine the *causes* of the crowing inspiration. These were, *predisposing*, *exciting*, and *proximate*. The *predisposing*—any such as affect the healthy condition of the spinal marrow, the malady being one, not of the cerebro-spinal, but of the true spinal system; in fact, a morbid exaltation of the reflex function. The strumous diathesis, female sex, and the practice of artificial feeding, were considered to be the chief. And any *exciting* cause, frequently in operation, must eventually disturb the equilibrium of the nervous centres, and produce permanent irritability, thus becoming a predisposing cause. Sleep, (or rather sudden awakening,) passion, terror, screaming, &c., were centric causes of the disease. The *exciting causes* are eccentric, consisting of irritation of various incident nerves, principally the trifacial, pneumogastric, and spinal nerves. The author considers the *trifacial* as most frequently at fault, and illustrated this by stating that painful dentition was almost always present. This is in opposition to Dr. Reid's views, who considers the pneumogastric most frequently the source of irritation. The author believed diseases of the cutaneous surface, such as eczema, often the source of morbid action. He then made some remarks on the pathology of the disease, contending that it consists in spasm of the laryngeal constrictors, and not in paralysis of the dilaters, as held by Dr. Hugh Ley. He could not conceive how paralysis could possibly explain the tetanoid condition of the glottis; nor how paralysis could be so suddenly induced and removed as is the spasm in laryngismus stridulus. The author also expresses an opinion, (founded on observation and autopsy,) that in no case is the disease dependent on morbid changes within the head. All cerebral symptoms are to be considered as the result of suspended respiration—the effects, and not the cause, of the malady. The author, then, at some length, endeavoured to trace an analogy between the crowing inspiration and epilepsy, the chief arguments being—1. That the symptoms are identical in type. 2. That persons who in infancy are affected with the one frequently become subjects of the other in adult age. This was stated from his personal experience. 3. Epileptical patients often suffer from a suffocative spasm of the larynx at the onset of a seizure. The symptoms were then briefly touched on, and a few of the most important noticed; the premonitory signs, in addition to those usually observed at the coming on of all convulsive affections, being (as he stated) an unusual condition of pulse, very slow, full, and irregular, and obstinate clenching of the thumbs in the palms. It was also interesting how, during the attacks, other and remote parts of the diastaltic system were influenced. Tenesmus, strangury, and obstinate closure of the sphincters, were often noticed. The author next (after objecting to the names generally given to the malady, and proposing to substitute a new one—viz., "suffocative laryngeal spasm,") proceeded to consider the different modes of treatment. The chief remedies he advocated were—chloroform inhalation during the paroxysm; citrate of iron, as a tonic, during the intervals; lancing the gums and hydrocyanic acid to subdue the irritable condition of the spinal cord, after all sources of irritation connected with the excitor nerves had been removed. The necessity for the latter remedial agent, and its great efficacy, he largely dilated on, and had rarely witnessed its failure. The dose was a quarter of a minim three times a day to a child three years old, increased (if necessary) to half a minim. Dose of the ferruginous tonics as large as the system will bear. Change of air, and the substitution of good breast-milk for artificial food, were also important auxiliaries. As regards prophylactic treatment, he considered the chief to be, regulation of diet, attention to the state of the gums and alvine secretions, (deprecating, however, the frequent use of purgatives,) and avoidance of all undue mental or bodily excitement. The author then read reports of his cases, twelve in number. Of these, eight were females, and nine of decidedly scrofulous diathesis. Five had been dry-nursed. With the exception of three, all these cases were treated successfully with the chloroform and hydrocyanic acid. In one of these three cases, there was aneurism of the aortic arch revealed by the autopsy; in another, no lancing of the gums was permitted, and no post-mortem; and, in the third, the patient had received a fall on the vertebral column two months previously, causing myelitis. The post-mortem showed vascularity of the cord and its membranes, a thin layer of fibrine on the dura mater, and the arachnoid opaque and thickened. In most of the successful cases, the removal of evident sources of irritation cured the disease for a period, but it generally was found to return, in consequence, as the author contended, of the cause becoming persistent and centric in the medulla spinalis; hydrocyanic acid then given always effected a permanent cure.

It would be unprofitable to enter fully into some of the points of the somewhat discursive discussion which followed the reading of Mr. Cox's paper with respect to its value as a contribution to the proceedings of the Society; the reader may form his own idea from the above abstract. Whatever its merits—and we confess we thought the paper written in a concise, clear manner, and with much modesty—all admitted that the Society were indebted to the author. In our report, we shall avoid the more abstruse points of the debate, such as the often-argued question of the remote pathology of the disease, and endeavoured to give the really practically important facts which were elicited.

Dr. **Willshire**, in opposition to the author had seen boys more commonly affected with the disease than girls. He had not seen it connected with strumous affections of the scalp, and doubted if it were so, recollecting how common such affections were.

Dr. Crisp recollected no case of aneurism in so young a child as that mentioned in one of the author's cases. With respect to treatment, as a general rule, the less we did, he thought, the better. Among the chief remedies were, change of air and attention to diet. With respect to the influence of affections of the scalp on the disease, he was more inclined to think such eruption rather a "safety valve" than a danger. The drying of such eruptions was sometimes highly dangerous.

Dr. Snow could understand that chloroform would relieve a fit of laryngismus stridulus, because it had a marked effect in relieving convulsions of any kind, for a time. He had removed convulsions in a child by applying chloroform to the mouth, on a sponge. He had also used chloroform in the case of a boy who was seized with a violent attack of epilepsy, from eating new potatoes. A handkerchief, sprinkled with from ten to fifteen minims of chloroform was applied to the mouth, and the spasm was quickly relieved. On its presenting signs of returning, the handkerchief was again applied. This was repeated, the seizures became less and less violent, and, eventually, the spasms ceased. He suggested that in future cases of laryngismus, chloroform should not be applied in its undiluted state, but mixed with spirit of wine. Sulphuric æther, however, was a powerful antispasmodic, and would answer all the purposes of chloroform in these cases, besides that it would have the recommendation of being safer. Half a teaspoonful of this might be placed on a sponge. When chloroform was used, he mixed one part of chloroform with three of spirit.

Dr. F. Winslow referred to an overloaded stomach as a cause of laryngismus, and the relief afforded to it by emetics. The author had stated an important fact with respect to the occurrence of epilepsy in after life, in those who in infancy had been affected with laryngismus.

Dr. G. Bird said the disease was in most of its symptoms closely allied to epilepsy. He considered that rashly interfering with scalp disease might sometimes produce laryngismus. He related a case in which an astringent lotion had been applied to a scalp eruption, and dried it up; laryngismus was the result. This occurred on more than one occasion. In cases of little, fat, squat children, with red face and languid circulation, he had found, after purgation by some saline medicine, that five or six drops of colchicum wine, given three or four times a day, was of the utmost service. In anæmic children, iron did good by lessening the general irritability, and hence lessening the liability to the disease. He questioned the use of chloroform.

Mr. Nunn considered that the eruption of the scalp did not cause the disease. The scalp affection showed a bad state of the blood, and in this condition of the system the patient was more liable to laryngismus.

Dr. Hird said that two classes of cases presented themselves to our notice; one of a congestive, the other of an anæmic type. Bleeding, purgatives, lancing the gums, if necessary, and emetics, if the stomach be overloaded, were called for. As soon as the active symptoms in either class of cases were removed, change of air was the best remedy.

Dr. Sibson said that one of the cases related by Mr. Cox, in which the disease resulted from a fall, was interesting. After death, pus was found under the dura mater, and congestion was found at the exit of the eighth pair of nerves. This proved that the disease had sometimes a centric as well as an eccentric origin. Change of air was one of the best means of treatment in the ordinary cases of laryngismus.

Mr. I. B. Brown defended the use of chloroform in these cases, and strengthened his argument by referring to its influence in parturition.

Mr. Dendy said the stages of the diseases must be borne in mind; in our treatment, chloroform was only serviceable at one moment, as it were, of the affection. Two sorts of cases presented themselves to us, and he treated these by observing whether the fontanel were elevated or depressed. If the first, active, if the second, passive, treatment was applied; chloroform acted by restoring the normal action of the glottis. In laryngismus, when long continued, congestion of the brain was apt to come on. He always, in cases of laryngismus, put the child at once into warm water; for he had found benefit from getting the skin to act.

Mr. Leonard referred to the importance of the statement respecting the occurrence of epilepsy in after life, in those affected by laryngismus in infancy.

Mr. Cox said the two points in his paper, which he believed were somewhat novel, was the use of chloroform during the paroxysm, and the employment of hydrocyanic acid to remove the irritation of medulla spinalis, and thus prevent a return of the disease. Emetics would cut short a paroxysm of the disease, but the attacks would return again and again. The cause of the skin disease consisted in a deranged state of the system; this state was favourable to the production of laryngismus. Chloroform was only applied during the paroxysm, and sometimes it required what might be considered a fearful dose to take effect. But he kept dropping the chloroform on the rag over the mouth until relief was afforded. He had as yet seen no ill effects from it; but for the future should act on the suggestion of Dr. Snow. Iron was not a specific; it acted only as a general tonic, and relieved the general irritability. Hydrocyanic acid was almost a specific remedy. The disease might be produced by congestion. Change of air was good. In the cause alluded to by Dr. Sibson, it was fibrine, not pus, under the dura mater.

Progressive Muscular Atrophy.—Dr. Aran, an hospital physician of Paris, has published, in the "Archives de Medicine," two extended papers on a new disease, to which he gives the above name. It consists of an atrophy of the muscular fibres, with an alteration in nutrition, and probably a cellulo-fatty transformation. Dr. Aran states that it may be either localized or general, with this peculiarity, however, that in the limb affected some muscles may remain unaltered, though surrounded by many others, either destroyed or transformed. The disease is at first marked by weakness, and afterwards emaciation of the limb, or portion of limb affected; at last the diseased muscles disappear altogether, whereby the patient loses the power of moving the limb in certain directions, or in any way whatever, according as one or all of the muscles have suffered. The affection is, however, rarely restricted to the muscles which are first atrophied; it generally spreads in the same limb, or attacks analogous parts in the opposite limb. This disease is essentially chronic, but it attacks young and robust subjects, and interferes with the muscles mostly necessary in various trades. Neither the peripheral nor central nervous system are involved; the patients eat and drink well, and the muscular fibres retain their irritability as long as the destruction is not complete. The treatment recommended for paralysis was mostly used, but without much success. Localized galvanism alone had a little efficacy, as it gave the patient a little strength, and controlled the cramps, subsultus tendinum, and the contractions of isolated fibres, so common in the disease. Galvanism may be expected to do some good, before the disease has reached the stage of fatty transformation; after this change, the affection seems incurable.

Biographical Sketch

OF

SIR WILLIAM BURNETT,

K.C.B., K.C.H., M.D., F.R.S.

DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE NAVY.

In our last we published a biographical sketch of Sir James M'Grigor, Bart., the Director-General of the Army Medical department; and it is now our pleasing task to present our readers with a similar sketch of Sir William Burnett, Director-General of the Naval Medical Department. Well has it been for both services that two such highly qualified individuals should have lived to work so long for their country's good—each having now been upwards of half a century engaged in the same professional duties in two of the most mighty arms of the state.

Sir William Burnett was born at Montrose in January, 1779, and received his scholastic education at the grammar school of that place. He served his apprenticeship to the late Dr. Hunter, of Montrose, and subsequently proceeded to Edinburgh with the view of further prosecuting his medical studies. Shortly after his arrival in the northern capital, he was, under peculiar circumstances, induced to accept the appointment of surgeon's mate on board the *Edgar*, of seventy-four guns, then at anchor with the North-sea squadron in Leith Roads. On going to sea the *Edgar* was dismasted; but after encountering very serious perils, and having been much damaged, she at length arrived at Sheerness, where she was paid off, and the officers and ship's company turned over to the *Goliath*, seventy-four, in which ship they proceeded to join the fleet of Sir John Jervis, off Toulon. The *Goliath* had not been long employed in this service when it was deemed necessary to raise the blockade of Toulon, and nearly simultaneously, to evacuate. the Island of Corsica. The fleet then proceeded down the Mediterranean to Gibraltar, and subsequently to Lisbon. During the passage the surgeon and senior assistant of the *Goliath* were both, from ill health, unfitted for duty, consequently the whole care of the ship's company fell on Mr. Burnett. The surgeon having been invalided, and the assistant having died of phthisis at Gibraltar Hospital, another surgeon was appointed, when the vessel, after having been refitted at Lisbon, sailed with the fleet in search of the Spanish fleet, (now increased by the Cadiz division,) which it encountered on the 14th of February, 1797, off Cape St. Vincent. During the action which ensued, we have reason to know that the future director-general acquitted himself to the entire satisfaction of all his superiors, giving an earnest of the zeal and ability which has since characterized his medical career. After the action the fleet returned to Lisbon with its prizes; and having repaired the damages received in the action, it proceeded to blockade Cadiz, where the *Goliath* was most actively employed with the in-shore squadron, her duties in the bombardment being to cover the boats when Nelson attacked the enemy's gun-boats, &c.

About the middle of 1798, on the appearance of reinforcements from this country, a previously chosen squadron from the Cadiz fleet (amongst which was the *Goliath*) sailed for the Mediterranean, to join Sir Horatio Nelson. It is not necessary to follow up the movements of the fleet, but as regards the *Goliath* it is proper to state, that in her the gallant Foley had the honour of leading the British fleet to victory. She suffered much in her hull and masts, and lost twenty-two killed, and between forty and fifty wounded.

The *Goliath*, after remaining off the coast of Egypt for some time, proceeded to Naples to refit, and subsequently to blockade Malta, where a small force was on shore under the late Sir A. Ball.

Nothing of a particular nature occurred relating to the medical department during her long cruise off Malta, except that, in the spring of 1799, a fever broke out while watering at a place to the eastward of Valetta, called Marsa Scala. Several of the midshipmen, and about forty of the ship's company, were attacked. The fever was attended with high vascular action, and much disturbance of the sensorium. A temporary hospital in the vicinity of St. Paul's Bay having been established, under the superintendence of Mr. Burnett, the sick and convalescent were sent to it, where, in a short time, their health was completely restored, without any loss. This establishment was at last suddenly broken up, and the whole of the people having been re-embarked, the *Goliath* proceeded to rejoin Lord Nelson on the coast of Sicily. On the 26th of May, Mr. Wood, the highly respectable surgeon, was taken ill, and sent to sick quarters at Palermo, where he subsequently died. The whole medical charge of the ship was thus a second time placed in the hands of Mr. Burnett; consequently, and as a proof of the estimation in which he was held, on the 5th of June he received the appointment of acting surgeon to her. On his return to England, some months afterwards, on passing the necessary examinations before the College of Surgeons and Sick and Hurt Board, this appointment was confirmed.

Mr. Burnett was next appointed surgeon of a sloop-of-war refitting at Portsmouth, but did not proceed to sea in her, having been soon afterwards appointed surgeon of the *Diadem*, sixty-four. This ship accompanied the expedition which appeared off Belleisle, Ferrol, and Cadiz, and subsequently proceeded to Malta and Egypt.

The *Athenienne*, a new ship, of sixty-four guns, built at Malta, was placed in commission by Admiral Lord Keith, and Sir T. Livingstone, the Captain of the *Diadem*, having been appointed to her, Mr. Burnett also joined the same ship, and continued to serve in her, in the Mediterranean, all the time she remained in commission, which extended to nearly two years. The ship was always particularly healthy, and there were not above three or four patients sent to hospital during the whole period of her service. After she was paid off, Mr. Burnett proceeded to London, and renewed his medical studies, (as he did on several other occasions,) until the beginning of the new year, when he was appointed to the *Blanche*, at Sheerness, in which ship he proceeded to Jamaica, where much active service was going on, in blockading certain land forces and a squadron in Cape François. After the surrender of that place, at the attack on Curaçoa, Mr. Burnett's health being much impaired, he was obliged to return to England, and was not again employed till the January following, when he joined the *Defiance*. This ship was engaged in Calder's action, and also, soon afterwards in the battle of Trafalgar, in which she suffered severely. Returning to Portsmouth he was appointed to the charge of the *Pegase*, hospital ship for prisoners of war, and subsequently to Forton Prison Hospital, where he had to perform all the hospital duties required for upwards of 10,000 men, as well as those connected with the reception of the casualties from abroad. These duties were generally of a very harassing and disagreeable nature.

For five years, Mr. Burnett had the charge of the hospitals for prisoners of war at Portsmouth and Forton, where, from the extent of the duty, and the nature of the diseases, he necessarily encountered great fatigue both of body and mind, while he was daily exposed to the risk of contracting contagious fever, with cases of which the hospital was generally crowded, and from the effects of which his assistants as well as the nurses were constantly falling sick around him.

The extent of the duties will be best understood by stating, that in addition to the patients previously in the hospital, which for some time had exhibited a daily average of 180, he occasionally received under his care, in one day, fifty additional patients, sometimes eighty, and on one occasion upwards of one hundred, labouring under the worst symptoms of typhus fever. In one year—namely, in 1809, the number of patients received amounted to 2525.

Still, amidst these trying scenes, (which thirty-five years of peace has rendered unfamiliar to us,) his attention was not confined entirely to the practice of physic: for during the time he was surgeon of the Hospital for Prisoners of War, he instituted a series of dissections, which were pursued assiduously, both by himself and his assistants; and independently of other operations, which were of frequent occurrence, he amputated the arm at the shoulder-joint five times—four times with the most perfect success.

How these laborious duties were considered to have been performed will be best understood by our stating, that, in 1810, they procured for him, from Mr. Yorke, then First Lord of the Admiralty, the appointment of Physician and Inspector of Hospitals to the Mediterranean Fleet, which then consisted of more than 120 sail, of all classes of vessels. On this appointment, the First Lord wrote to Admiral Sir Charles Cotton the following private letter, which requires no comment, as an honourable testimonial—viz.:

Admiralty, Aug. 4, 1810.

DEAR SIR CHARLES,—I trouble you with this, by Dr. Burnett, appointed physician of the fleet under your command. This selection has been made entirely on account of his *superior merit*, as I have no personal acquaintance with the doctor; but I hear from all quarters that he is a very eminent man in his profession, and a worthy character, and I am persuaded that you will find the advantage of his services. Accordingly I beg to recommend him to your protection and good offices.

Always, dear Sir Charles, yours very truly,

(Signed) C. YORKE.

Dr. Burnett served in the above capacity from the period of his appointment to the latter end of 1813, enjoying the full confidence and friendship of the several commanders-in-chief, at whose tables he was a constant and a welcome guest.

About this period he directed his attention to the establishing new regulations in the hospital and prison departments, which were attended with very satisfactory results, not only to the patients, but to the public; for while the comforts and medical treatment of the patients were improved, the expenses to the country were greatly diminished. He introduced a better method of treating the fever then so prevalent in the fleet, which had the effect of reducing, not only the ratio of sickness, but also the ratio of mortality.

Towards the end of 1813, Dr. Burnett received official permission to return to England, on account of impaired health. He arrived at Spithead on the 24th of December; and at the beginning of March following, his health having improved, he was requested to take medical charge of the Russian fleet in the Medway, then in a sickly state. He also undertook the superintendence of the department of prisoners of war at Chatham, amongst whom a contagious fever was at the time raging with a fatality scarcely second to the plague itself.

On visiting the prisoners of war, he found the Danes and the Americans in a deplorable state. The hospital ship was full of cases of the worst description; one surgeon had died, and there were two more in the ship principally infected, dangerously ill. The number of sick was not known, and to add to the general embarrassment, small-pox prevailed extensively in one of the infected ships; so great, indeed, was the alarm which existed, that the commander-in-chief thought it necessary to place the whole in quarantine. Some idea of the malignancy of the disease may be formed, when we state that at the time of his taking charge he found fifteen patients in the hospital ship with their lower extremities in a state of gangrene, and almost every patient covered with petechiæ or vibices.

Under all these circumstances, sufficiently distressing of themselves, the season was inclement and the ground deeply covered with snow; still Dr. Burnett visited the ships daily, spending hours in the midst of infection, selecting the worst cases for removal to the hospital. So hazardous was this duty considered by the executive officers of the ship, that the strongest representations were made by them to prevent his going below, alleging that he would either meet with personal violence, or suffer an attack of fever. He, however, persevered in making his visits below without any one accompanying him, and by degrees restored order amongst the prisoners.

In the progress of the disease, the medical duties became still more arduous, in consequence of the surgeons of both the hospital ships being attacked with the prevailing fever, by which, in addition to his other duties, the immediate charge of both the hospitals fell upon Dr. Burnett. He had the satisfaction, however to find that his exertions were attended with the happiest results, for out of 193 patients taken ill before his arrival at Chatham, fifty-four died; while out of 518 taken ill after he took charge, only sixty-one died.

Towards the end of May, health being restored in the Russian fleet, and the department of prisoners of war at Chatham, the former was ordered to embark the Imperial guards from different parts of France, and proceed to Cronstadt. The Emperor having requested that Dr. Burnett should accompany them, a hospital ship was fitted for the purpose, and a medical officer of the British navy placed in each ship, under his orders. This duty was performed in a manner highly creditable, not only to Dr. Burnett, but to all the medical officers concerned; only one man, who laboured under an organic disease of the stomach before he left France, died; and the fleet, carrying nearly twenty-thousand men, arrived at Cronstadt in the highest state of health.

Dr. Burnett experienced a very flattering and kind reception from his Imperial Majesty, and, at the conclusion of the service, returned to England, in the hospital ship, the *Niobe*.

On his return from Russia, the doctor was placed on half-pay, and, after writing some time, in the expectation of being called upon to fill an important appointment, and wearied of an idle life, he settled at Chichester, and very soon acquired a more extensive practice in that city and neighbourhood than any physician had ever had before him. In January, 1822, he received, through a friend, entirely unsolicited, an offer from Lord Melville, of a seat at the Victualling Board, as the colleague of the late Dr. Weir, in charge of the medical department of the navy.

Dr. Burnett, no doubt, felt a deep interest in the affairs of the navy, but more especially in that department in which he had so long served, but his reluctance to accept the commissionership was strong, as he greatly disliked the constitution of the board in which he had to act, and in which he expected little support in carrying out the measures he knew were required, both for the credit and benefit of the service. After, however, weighing all the circumstances, he decided upon accepting the office, though his income was much diminished thereby.

Among the observations of Dr. Burnett, in his new appointment as commissioner, he was forcibly struck by the insufficiency of the returns then in use, to show the nature and extent of sickness and disease existing in the naval medical establishments on shore as well as in the service afloat; he therefore required from the medical officers periodical returns, nosologically prepared, to show the extent of the particular classes of diseases in each hospital or ship on every station, and also the number of deaths from each disease, separately. These regulations have been of great advantage in the preparation of statistics, to show the effect of the remedial systems pursued, both past and present, and, indeed, from this source, under the director-general's superintendence, most elaborate and interesting statistical reports have been published, and still continue in progress.

Considering the inconvenience which arose from the want of a naval hospital on shore at Chatham, Sir William strongly urged the erection of the present one (Melville Hospital) in lieu of the plan which had been long practised of sending patients to a vessel used as a hospital ship at that port; the regulations and arrangements of the said hospital were principally suggested by him, and the change proved most beneficial. His personal visitations of that and the other naval hospitals also have produced great benefit in the adoption of regulations suggested by him for their better and more perfect economy and management. Nor is it one of the least acts for which credit is due to him, that a moral and merciful management of the naval lunatics at Haslar has been established, easier in its execution, and changing into comparative happiness the former misery of those unfortunates. This change has been effected under the personal care of Dr. Anderson, who was selected by the director-general for that office, on account of his superior talent, practical knowledge, and natural kindness of heart, and to whom the service is so much indebted for the present admirable state of the asylum.

All the codes of instructions relating to the naval medical service, either in hospitals or ships, as well as at the established sick-quarters and marine infirmaries, have been revised or constructed by the director-general with evident advantage to the service, as exemplified by the facility and correctness with which, in comparison with its former difficulties and irregularities, the whole business of the medical department has for several years, with a reduced establishment, been conducted: and with these regulations may also be connected those which have been formed and issued for the qualification of candidates for admission into the naval medical service, by which it may confidently be asserted that a class of medical officers now exists in the navy equal to any whether in this or any other country.

The libraries and museums which have been formed on an inexpensive plan, or, rather, with small expense, at the Royal Naval Hospitals at Haslar and Plymouth, originated entirely with Sir William Burnett. The plan was not only suggested, but also matured by him, and by strict care and attention, the libraries are now select and extensive; and the museum at Haslar (the contributions of specimens to which are voluntary) is so advanced, and in such complete order, that in a short time it will no doubt be able to compete with any similar institution in Europe.

At the library, lectures are periodically given by the medical officers of the hospital, for the advantage of medical officers generally, who are freely admitted, whether of the navy or army; they have also the benefit of free admission to the library, and use of the books without reserve, thus affording them the opportunity of advancing their professional knowledge, and yielding benefit both to them and to the service.

It is thus that the class of naval medical officers of the present day are so well qualified for the important duties devolving upon them, and to which may be attributed, in a great measure, the decrease of those frightful outbreaks of sickness with which the crews of her Majesty's ships were formerly so often visited.

Another most important regulation is the establishment of a sick mess in her Majesty's ships. This was formed upon a plan entirely recommended and arranged by the director-general, and by which the provisions saved by the sick are appropriated to form a fund to provide them with the necessaries and comforts requisite for their respective cases. The advantage of this system has been great in every way; every comfort is obtained to a much greater extent than formerly, notwithstanding the generous assistance then afforded to the sick by the ship's officers. Disease, also, is sooner eradicated, and consequently, in addition to the advantages to the patients, the navy itself is kept in a more efficient state for active service.

In the year 1841, a circumstance occurred which strongly showed the regard and esteem entertained for Sir William by the naval medical corps. A committee from that body met for the purpose of offering to the whole of their brother officers an opportunity of evincing their feelings, by presenting to him a testimonial of the sense they had of the benefits he had rendered, not only to that class of officers, but to the service generally. The opportunity was eagerly embraced, and the measure carried out with the greatest rapidity, although when it first came to his knowledge that the affair was proceeding, he expressed his strong objection to it, but the managers would not desist. It could not, however, be otherwise than gratifying to him to witness such a feeling, and the more so as those officers who had retired from the service were as strenuous in the cause as those who were actively employed. The result was, that, in a very short space of time, the director-general was presented with his portrait in full-length, painted by the late Sir Martin Archer Shee, President of the Royal Academy, accompanied by a handsome service of plate.

In closing these remarks, so honourable to the subject of this memoir, we cannot omit stating, as an additional testimony in his favour, that during his professional career he has, by his judicious care and regulations, saved the country several hundred thousand pounds, as might be proved by reference to official documents. He has also upon all occasions, when opportunity offered, evinced his anxiety and zeal for the respectability and prosperity of the medical department of the navy; and amongst the many instances which could be adduced, by the writer of this article, in proof of the truth of this assertion, it is considered only necessary to refer to the honest and manly evidence given respecting the medical officers of the navy by Sir William before the late Naval and Military Commission, appointed by her Majesty. No small portion of the success which has attended the prolonged struggle of the naval assistant-surgeons for their proper position has been owing to the continued support of their claims by Sir William Burnett.

Numerous and extensive as are the official duties of the director-general, his active mind has not been confined to them alone. One of his scientific discoveries (for which he has a patent) is of so much importance, that it will no doubt effect a vast and beneficial influence, not only as regards the preservation of her Majesty's ships, and their material of rope and canvass;—the timber used in railways, buildings, fences, &c., but also in purifying and destroying the influence of foul atmosphere, which, by the use of the article, is instantly rendered inodorous. We allude to his solution of the chloride of zinc, now in use in the preparation of timber, &c., in her Majesty's dockyards, the qualities of which solution are proved by the numerous and flattering testimonials, forming a complete volume in its praise, from officers of different ranks in the naval service, as well as from private individuals, by whom the solution has been tried; indeed, nothing can be more convincing of its value than the testimonials received from so many quarters; and we trust the day is not far distant, when its extensive and general use will return an equivalent reward for so valuable a discovery.

After the preceding statements, it is needless to expatiate upon the advantages the naval service has derived from the numerous regulations formed and adopted by the director-general; but, to a man who has, with intellect and energy, devoted so much of a long life to the good of the public service, it is not too much to say that the country owes him a large debt of gratitude and recompense, especially when it is considered, that in taking office he greatly sacrificed, in a pecuniary point of view, the interests of his family, and the fair expectation of an independence, far superior to what could be obtained by the confined remuneration of official service, which is necessarily accompanied by great expense.

Sir William, soon after coming to London, became a licentiate of the Royal College of Physicians, and, some years afterwards, a fellow of the College. He is also a fellow of the Royal Society, the Royal Colleges of Surgeons of Edinburgh and Dublin, and of the Medico-Chirurgical Society of St. Petersburg. He is the author of several papers, on different medical subjects, in the periodical medical journals of the day;—of a work on the Mediterranean Fever;—the Official Report of Fever in the *Bann* sloop of war, on the African station;—and an account of a contagious fever prevailing amongst the prisoners of war at Chatham.

A Mirror

OF THE PRACTICE OF

MEDICINE AND SURGERY

IN THE

LONDON AND PROVINCIAL HOSPITALS.

LONDON HOSPITAL.

Wound of the throat inflicted by a Suicide; Death; Autopsy.

(Under the care of Mr. Luke.)

It will generally be allowed that a great portion of the data upon which medical science is based has been obtained by fortuitous circumstances: the discovery of the therapeutic properties of bark and many other drugs, as well as the results which have become known by means of the perforated stomach of the American patient, may be looked upon as examples of the fact. Deep wounds inflicted on important parts, which do not immediately carry off the patient, will sometimes elucidate physiological phenomena, which experiments upon the lower animals would scarcely have brought under so conspicuous a light; and among these, attempts at destruction by throat-cutting hold a prominent place. Though deplorable in itself, we sometimes derive much instruction by such an act, not only in a physiological point of view, but likewise with regard to improvements which may be introduced into surgery, in our endeavours to save life under these melancholy circumstances. We think, therefore, that the following case, lately under the care of Mr. Luke (a full account of which was courteously furnished by Mr. Wordsworth, assistant-surgeon to the London Hospital), will be read with much interest.

J. B——, aged thirty-nine, a labourer from Essex, was admitted, August 20, under the care of Dr. Little, on account of severe pain in his chest, associated with dyspepsia. About noon, on the Friday following his admission (nothing very remarkable in his manner having been noticed previously) he was seen by the patient occupying the adjacent bed to rise and take something out of his locker. Then, stooping down, he deliberately drew an ordinary dinner-knife several times to and fro across his throat, which he continued to do till an alarm was given, and the knife wrested from him. Mr. Brown, one of the house-surgeons, who was kind enough to direct our attention to the case, was called to him, and found a large and deep wound, through which the blood was flowing in a considerable stream, especially on the right side. A vessel was secured, and the hæmorrhage almost entirely ceased.

The wound extended from the anterior edge of one sterno-mastoid to that of the opposite, on a level with the thyro-hyoid membrane, completely severing the larynx from the os hyoides, and laying open the pharynx. The sheaths of the cervical vessels were exposed on both sides, but their contents appeared intact. The alæ of the thyroid cartilage protruded the wound. The epiglottis, being severed, was carried upwards with the os hyoides. A very considerable amount of blood had flowed, but the patient did not faint. He was then transferred to a surgical ward, and placed under the care of Mr. Luke, who saw him about one o'clock. Mr. Luke directed that as soon as all hæmorrhage had ceased, an elastic tube should be passed through the nares into the pharynx, that the thyroid cartilage should be attached to the os hyoides by sutures, (the ends of which were to be carried through the external wound to admit of their removal,) and the latter closed by the same means, with the addition of plaster.

Slight oozing of blood through the day prevented these directions being carried out till the following morning. In the interim, the patient was kept in the reclining posture, the head being raised, and the chin depressed towards the thorax; an elastic tube was likewise passed through the wound into the œsophagus, by which a considerable quantity of nourishment was administered. An elastic catheter was now introduced through the nose, and firmly secured by a ligature behind the occiput. Three sutures were used in attaching the divided edges of the thyro-hyoid membrane, by which means they were placed in close approximation; the integuments brought together by six more, and further closed by strapping. This was about six A.M. During the day respiration continued free, and but slightly embarrassed; and the patient was fed several times, through the tube, with great facility; but he gradually sank, and died about two P.M., twenty-six hours after the injury, having never rallied from the shock and prostration consequent on his rash though delayed purpose.

A post-mortem examination took place about forty-eight hours afterwards. The body was pale, rather emaciated, and but slightly muscular. On dividing the sutures, the wound was found to be free from blood, or any other effusion, and the parts were generally œdematous; no great amount of tumefaction had occurred. The edges of the wound were somewhat jagged, as if inflicted by a dull instrument. It extended through the whole of the structures situated between the inner edges of the sterno-mastoid muscles, as deep as the pharynx; on the left side dividing part of the sterno-mastoid, and on the right, the ascending course of the thyroid cartilage, and the superior thyroid artery, close to its origin, which had been ligatured. The sheaths of the vessels were visible, but there appeared no injury to the vessels or nerves. On carefully dissecting the right sheath from its contents, a small clot of blood was seen under the cellular coat of the external carotid; the artery was opened longitudinally, and opposite the coagulum, the middle and inner coats were found divided in three places, to the extent of about four lines, on its anterior wall. A small quantity of blood had passed between the coats, and formed a clot as large as a common field-bean, the external coat being quite entire. The nerves in and around the sheath appeared uninjured. The mucous membrane of the larynx was œdematous, and much discoloured; that of the trachea had undergone but little change. Scarcely any blood had passed into the bronchi, nor were they much obstructed; the smaller divisions contained an excess of diluted mucus, and the entire pulmonary substance was gorged with serous fluid, especially in the lower lobes. The pleural surface was normal. The heart contained a large quantity of fluid blood in all its cavities, but was free from structural change. All the abdominal viscera were free from disease, with the exception of the left kidney, which was much softened, atrophied, and fatty, and contained, imbedded in its cortical substance, three small mulberry calculi.

Mr. Wordsworth, who conducted the post-mortem examination, made the following remarks:—

This case (though one of a description comparatively common at the London Hospital, adjacent as it is to the dwellings of a vast mass of the humbler part of the population of a great city—in the locality where the incentives to suicide are concentrated to such a degree as to leave but little to the imagination to add—peculiar, probably, to the forlorn homes of Whitechapel Bethnal-green, St. George's, and some half-dozen other districts of the metropolis, where vice, drunkenness, ignorance, and improvidence fill up the cup of human wretchedness) was one of great value, surgically and physiologically. One circumstance in it makes the case, if not unique, probably nearly so. It cannot fail to excite the attention of any one reading the details of the post-mortem examination, that in the condition of the external carotid artery the great interest of the case consists.

It appears—First, that the instrument used was sufficiently sharp to divide the inner tunics of the artery, and not sufficiently so to injure the tougher cellular layer, probably acting in the same manner as the ligature, the edge of the knife pressing the artery against the resisting pre-vertebral muscles. And in this circumstance a striking confirmation is afforded of an observation of one of the most eminent surgeons of the present day, that it is a much harder matter to divide a large artery than is generally supposed; for though the man drew the knife many times to and fro across the throat, and must have used much force directly on the artery, still its texture was sufficiently tough to protect it externally. Had the poor fellow survived, he must in all probability, have been the subject of a dissecting aneurism, the first steps towards that affection being already effected.

Second. The plan of treatment directed by Mr. Luke, though not successful in saving the man's life, still placed him in the best conceivable position to repair so great an amount of injury, and relieved him from much irritation without incurring risk by complicating the case with the additional chance of suffocation or difficulty of feeding him. Had the patient survived the original shock, and the mental impression always attending these attempts at suicide, his prospect of ultimate recovery was raised to the maximum.

Third. Physiologically, this case was replete with interest; for the larynx being opened superiorly, and protruding through the wound, an opportunity was afforded of examining the actions of the small muscles moving the vocal cords, and influencing the opening of the glottis. Thus a full view of the upper aperture was presented, the mucous membrane being divided close to the superior margin of the thyroid cartilage, and over the apices of the arytenoid cartilages.

The patient had the power of raising the larynx when he desired to swallow, probably by the action of the inferior constrictor. When asked to speak, he brought the cords into close approximation, and produced a rather loud squeaking sound, having no alteration in its intonation by any power he could exert.

The thyro-arytenoid, arytenoid, crico-arytenoid, (lateral and posterior,) and the crico-thyroid muscles, continued in constant action, producing alternate contraction and relaxation of the cords, and causing the arytenoid cartilages to undergo a semi-rotatory movement; these actions being performed with great regularity and precision, at the rate of about thirty per minute.

On placing the extremity of the finger, or the sponge, in clearing the occasional oozing of blood from the wound into the rima, these muscles were immediately thrown into violent spasmoid action, the cords becoming tense, feeling on the finger like two strings of a harp, and giving a much more powerful grasp than could have been supposed from such small muscles.

The epiglottis and mucous membrane being divided so low, the muscles resting on it could not be observed.

Since this case, two others have occurred in the practice of Mr. Luke at the Hospital; in one of which, the elevating muscles of the os hyoides were divided along its upper margin, opening the pharynx on a level with the epiglottis, and of course attended with very considerable hæmorrhage, from which the patient soon sank.

The other, that of a woman, presents a wound much lower in the neck, and opening the trachea. In this case, the wound has been closed by sutures, and the patient is progressing favourably.

Cervical Abscess; Death; Autopsy.

(Under the care of Mr. Curling.)

Too much caution cannot be used in the opening of abscesses within the mouth, be they ever so small and insignificant; for even a momentary obstruction to the air-passages may be suddenly fatal. Nor is sound advice wanting in systematic works respecting the prudence to be observed under such circumstances. We have known surgeons, who, when opening an abscess of the fauces, caused their patient to lean the head forward, so that the purulent matter might at once escape by the mouth; others are content to make a very small puncture, so as to allow the pus to be evacuated gradually, &c. But the passage of the matter into the glottis is not the only peril accompanying circumscribed suppuration about the mouth; œdema of the glottis very often accompanies such a purulent collection, or follows upon its evacuation. Thus it would appear that the above described symptoms are not of an unimportant nature; but the case which we have now to report tends to prove that a patient so affected may perish by much less obvious causes than we have spoken of. We shall give a brief sketch of the same, kindly furnished by Mr. Mountford, one of the house-surgeons, and let our readers reflect upon the probable immediate cause of its sudden and fatal termination.

The patient, a labourer, fifty-six years of age, applied for advice to Mr. Ward, Aug. 27, 1850, at the out-patient department, respecting a large swelling occupying the sub-maxillary and parotidean spaces on the right side, which involved also the right tonsil and the velum palati. Mr. Ward made an opening in the velum, which gave exit to a considerable quantity of purulent matter. A hardened mass was, however, left on the right side of the neck. Under these circumstances it was thought prudent to admit the patient into the house, and he was accordingly placed under the care of Mr. Curling, who ordered warm fomentation to the affected region.

The day after admission the discharge from the opening made within the mouth was escaping freely, but the outer swelling being very tense, Mr. Curling made an incision parallel to the horizontal ramus of the jaw, which allowed the escape of much fœtid pus, and seemed slightly to relieve the patient. A linseed poultice to the part, a calomel-and-jalap purgative, and strong beef-tea were then ordered. On the third day the opening was enlarged and discharged freely; the patient expressed himself as much better locally, but complained of pain in the chest, and some difficulty of breathing. The pulse was now found *quick and feeble*. Eight ounces of wine were therefore ordered, as well as a blister to the seat of the pain. On the fourth day, the patient was evidently much better, both in the apparent seat of the disease and in his breathing, but he expressed a wish to leave the hospital, assigning no cause for his dissatisfaction. He rose, and proceeded to dress himself, but was persuaded to remain, and having returned to his bed, the nurse was about to give him his dinner, when he suddenly expired.

On a post-mortem examination the following appearances were observed:—On opening the head, a very large quantity of blood was found in the superficial veins of the brain and dura mater, but nothing abnormal was observed in the cerebral organ itself. A large sloughing wound occupied the lower part of the right cheek, running along the ramus of the jaw for about an inch and a half: the integuments were separated from the whole parotid region, and a deep sanious abscess extended upwards towards the palate, downwards and backwards, behind the larynx, and opened by a large aperture opposite the epiglottis. The walls of the pharynx were much thickened, and contained a large quantity of pus in sinuses between the muscular fibres. The larynx and trachea had suffered but little from œdema, nor had much fluid passed down into the bronchi. Thorax: Both lungs were much congested, and upon the anterior surface of the left organ a small quantity of lymph was diffused. The left pleura contained about six ounces of purulent serum. All the cavities of the heart, as well as the pulmonary artery, were distended with solid and fluid blood. The aorta, at its origin, was much dilated; all the valves were normal, and the viscera of the abdomen healthy.

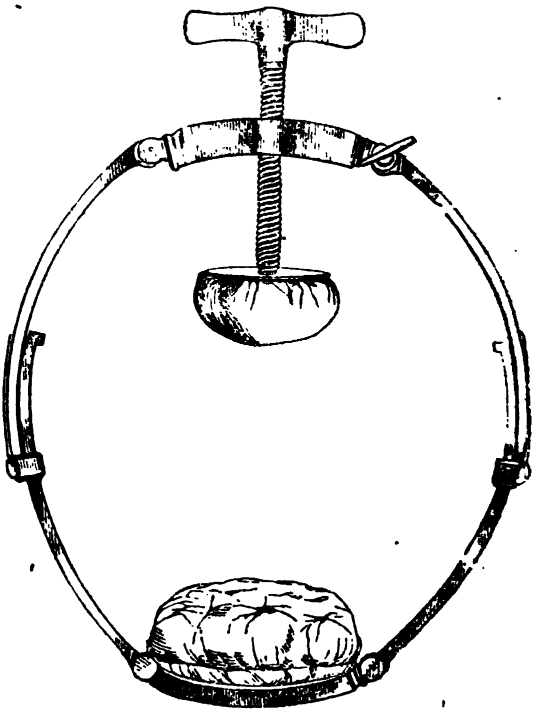
Some practical interest would naturally be connected with the investigation of this sudden death; every practitioner will of course judge for himself, and though we do not pretend to solve the question, we will just venture to express a belief that the purulent serum found in the pleura, coupled with the great congestion of the lungs, may have been mainly instrumental to the unforseen termination of the case. It will be noticed that the pulse was, a few days previous to death, "quick and feeble;" there was an inflammatory and suppurative tendency of all the parts situated at the entrance of the larynx; the powers of resistance of the constitution were trifling; the circulation through the lungs embarrassed; so that it may have happened that the sudden secretion of fluid into the pleura, aided by the pulmonary congestion and the disorganized condition of the pharyngeal and cervical regions, may have suddenly arrested the circulation through the lungs, and hence the "large quantity of blood in the superficial veins of the brain and dura mater," and the "cavities of the heart, as well as the pulmonary artery, distended with solid and fluid blood."

ST. BARTHOLOMEW'S HOSPITAL.

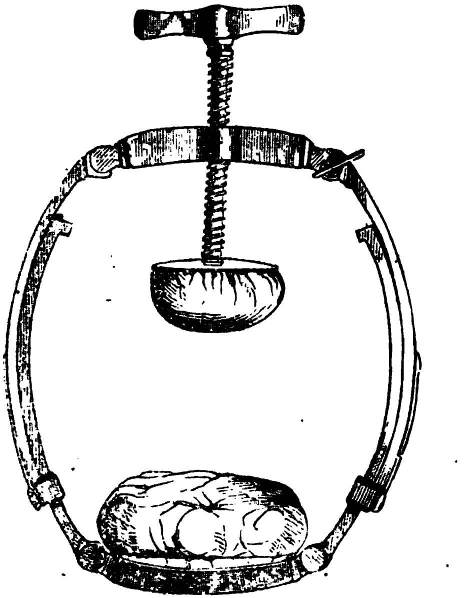
Amputation for Carcinoma, and disease of the Knee-joint. Mr. Skey's new Tourniquet.

(Under the care of Mr. Lawrence.)

On the 27th of November last, Mr. Lawrence performed amputation of the thigh upon two patients; one of them is a man, about fifty years of age, who was affected with an extensive carcinomatous ulceration of the leg, of long standing. As the only means of relief was the removal of the limb, Mr. Lawrence amputated the thigh by the circular operation. We perceived that a tourniquet of a novel construction was used for compressing the femoral artery. The instrument has been invented by Mr. Skey, and manufactured by Mr. Ferguson, and we are happy to present our readers with the following sketch of the same:—



It will be noticed that this tourniquet is intended to encircle the leg or thigh completely; it requires no piece of roller or bandages of any kind, and is, so far as we have seen, adapted with the greatest ease. The two elliptical halves are made of steel, about a quarter of an inch thick; they are connected above with the plate holding the screw, by two hinges, one on either side of the plate; and likewise connected with the plate which supports the cushion below, by two other hinges on either side of the latter. All stiffness is thus thoroughly avoided, and the circular figure formed by the whole instrument may be altered in various ways, and adapt itself to the shape of the limb. The hinge on the right side of the screw is provided with a peg, which, by being withdrawn, allows the branch to be completely separated from the plate, and the instrument to be opened, for the purpose of applying it or taking it off. It will be perceived at one glance that the cushion below is intended for the posterior part of the limb; and when the pad attached to the screw is directed downwards, and applied to the artery, the thigh is not tightly surrounded and the return of the venous blood arrested, but the pressure on the artery is effected merely between the pad above, and the cushion below. On examining the centre of the rods it will be seen that they are composed of two equal parts, the upper receiving the lower in a ring, by which contrivance they may slide upon one another, and the instrument be rendered more or less capacious, to meet the necessities of any size. The sliding parts are provided with holes and a peg, by which the form of the tourniquet may immediately be fixed.



The preceding cut shows that the lower portion of the rod may slide upwards, and render the instrument of a smaller size. Mr. Skey applied this tourniquet himself, in the case above mentioned, and it evidently answered the purpose in a very satisfactory manner, all the surgical staff present being unanimous in the expression of their approval.

Mr. Lawrence's second patient was a girl, about nineteen years of age, upon whom he performed amputation of the thigh for confirmed disease of the knee-joint. Mr. Skey's tourniquet was again used in this instance, and was as efficacious as in the preceding case; in both of them a remarkably small amount of blood was lost. This poor girl had been discharged from the hospital some months ago, after having been many weeks under treatment for a strumous affection of the ankle-joint. The usual remedies had been successively used, and not without benefit; for although the joint became somewhat stiff, she had very much improved in health, and had left the hospital in a tolerably good condition. She had, however, complained of her knee some time before her discharge, but the affection was not then of a very important character. About six months after her discharge, the patient applied again for admission, with a completely contracted knee. The joint was extremely painful, swollen, and red, the leg firmly flexed upon the thigh, and the girl in a very weak state of health. Mr. Lawrence judged that the only resource now left was the removal of the cause of irritation, and the above-mentioned operation was accordingly performed.

The amputated limb, at its examination, which was conducted by Mr. Holmes Coote, presented appearances of a very interesting character. On the ankle two fistulous passages were observed, one over the outer malleolus, the other by the outer edge of the tendo-Achillis; both leading to rough bone and to the cavity of the joint. The latter was tumefied and discoloured, principally on its outer part, and presented the very rare phenomenon of complete *bony* ankylosis. We find upon inquiry that specimens of such ankylosis are very rare in the museums of the London hospitals. The joint likewise presented slight pulpy degeneration of the synovial membrane; some yellowish matter, much resembling tubercle, was infiltrated through the latter, and the extremities of the tibia and astragalus were rough. Between the opposed surfaces of the tibia and fibula an excavation, capable of containing a filbert, was found; this was filled with cheesy matter, which bore much analogy to the substance infiltrating the synovial membrane. Pulpy degeneration of the same membrane was also found in the knee-joint, which latter, as stated above, was firmly contracted. The articular surfaces of the outer condyles were ulcerated, and the semi-lunar cartilages were in a state of soft degeneration. Ulcerations were likewise noticed round the circumference of the articular surfaces of the tibia, and the synovial membrane covering the outer of these surfaces was in a state of acute inflammation, (a circumstance accounting for the great pain experienced, and beautifully showing in what different stages of the disease the various parts of a joint may be, the synovial membrane being most frequently the first affected.) A slight effusion of lymph was observed in some portions of the joint, and a large tuberculous abscess was discovered under the biceps muscle.

Peritonitis from Injury.—Recovery.

(Under the care of Mr. Stanley.)

It is our pleasing duty to record a case of severe injury to the abdomen, followed by very acute peritonitis, where, by the agency of opium, a recovery was obtained, which, under the circumstances, might hardly have been expected. It is by watching cases of this nature that we become convinced of the inestimable value of opium, and it may safely be asserted that innumerable lives have been saved by this powerful therapeutic agent. Mr. G. Mitchinson, the dresser, was kind enough to furnish us with ample details touching this very instructive case, and we forthwith proceed to lay them before our readers.

The patient is a stout, healthy-looking little boy, five years and a half old, who was brought to the hospital on the 10th of July, and placed in Kenton ward, under the care of Mr. Stanley. The poor little fellow had, a few moments before his admission, been knocked down by a cart, the wheel of which was distinctly seen by several persons to have passed over the abdomen, across the umbilicus. Immediately after the accident, the boy is said to have got upon his feet, and to have run some paces; but he soon bent the body forward and lay down.

When he was brought to the hospital he kept tossing from side to side, and seemed to suffer excruciating pain in the abdomen. The respirations were forty in the minute, suppressed, and very short; the pulse about 140, and small; but he was so restless that the arterial pulsations could hardly be counted. The child had not vomited or passed any blood per anum; he stated that he had emptied his bladder about half an hour before the accident, and had just had his dinner. This latter statement can hardly be correct, as it is not very likely, as the dresser justly observed, that a child in that walk of life would dine at six.

However this may be, the little patient was at once given seven minims and a half of tincture of opium, and warm stupes were carefully applied to the abdomen. These means having given no relief, in about an hour the same dose of laudanum was repeated; the general symptoms remained the same; there was no vomiting, and the child was quite conscious. The patient remained in the same state during the next hour, rolling about in great agony. Neither the chest nor the abdomen appeared to move much during respiration, which was short, frequent, and *catching*; the face was pale, but the extremities warm. As he was now inclined to doze, no more opium was given, though the child did *not* fall asleep, and went on tossing about, moaning and crying with pain in the abdomen. The same dose of laudanum was therefore repeated, and two ounces of wine given besides. In the night he was very restless; about an hour after the last dose of opium the child went to sleep, but woke several times, and complained bitterly of pain in his belly.

The bowels were not open towards morning, nor was there any urine passed; a little retching took place, and the patient expectorated a small quantity of dark-coloured blood. During the day some sleep was obtained; the pupils were, however, contracted, the respiration irregular, though more natural and nasal. The pulse improved somewhat in volume (130, intermittent), and the patient expressed himself as feeling better. On the third day, no urine had been passed since admission; an elastic catheter was therefore introduced into the bladder, and about eight ounces of clear and apparently healthy urine drawn off. The catheter was secured in the urethra, and about one ounce of turbid urine gradually drained away, loaded with an abundance of white flocculi.

When the patient awoke, about noon of the third day, he complained of great pain in the abdomen, and the respiration again became short and hurried; the child was given seven minims and a half of tincture of opium, and two ounces of port wine; the urine on examination was found loaded with an abundance of lithates. Some milk-and arrowroot were now taken with but little appetite, and the dose of laudanum, together with the wine, was repeated, but the child went on complaining of as much pain in the abdomen as before. On the fourth day he was somewhat quieter, and dozed a little; the pain and restlessness, however, soon returned, and the former was constantly referred to the abdomen. Tincture of opium, seven minims and a half, and two ounces of wine. Towards the evening of this day the ingestion of the opium was followed by marked relief:—in fact, the child generally fell asleep about half an hour after taking each dose, and on awaking expressed himself relieved, although the pain never *ceased*, and after remaining awake a short time, it became so urgent that he was even afraid to cough. He had, however, a little sleep for about two hours, after which time he was very restless, and in pain.

The bowels had not been moved since admission; there was no vomiting, and the urine dribbled through the catheter. The same dose of opium and wine was repeated, and the patient now expressed great anxiety to have his medicine administered. On the fourth day there was not much alteration, except a fit of coughing, which occasioned a great increase of pain; the opium was repeated. The pulse was now 120, regular, soft, and slightly improved in volume; the tongue somewhat furred and dry; the bowels still confined; and the urine passing through the catheter. No pain in the chest. In the afternoon the child fell into a deep sleep, which lasted three hours; on awaking he expressed himself as feeling better, though coughing still caused much pain in the umbilical region. The pulse improved in volume, and was soft and compressible; the pupils not being so contracted as heretofore. Opium and wine repeated.

On the fifth day the patient seemed free from pain, and the countenance was somewhat more natural and less expressive of uneasiness; the fits of pain, however, soon returned; the face became again extremely anxious; the pulse harder, and the respiration hurried. The opium and wine were repeated three times in the day without subduing the pain, which was still much complained of. Bowels still confined. Thus the patient went on for the next three days improving a little at times, but ever being subject to severe attacks of abdominal pain; the bowels remained inactive until the tenth day after admission, when, after a good night, he awoke considerably better, did not take his usual dose of opium, and had a copious alvine evacuation. The pulse fell to 74, was soft and compressible, and the abdomen began to bear moderate pressure. The next few days were marked by gradual improvement, the child seldom required medicine, and did not experience any pain but when he committed some dietetic indiscretion; and about twenty days after admission the little patient left the hospital, to all appearance perfectly well, and has since remained so.

This case beautifully illustrates the rule of practice which states that the great point in the treatment is to support the system under the intense irritation excited by the visceral inflammation, and that no substance is so well calculated to effect this as opium. We are likewise advised, in contusion of the abdomen, to avoid purgatives and enemata; this precept was here applied with the utmost strictness, as no alvine evacuations took place for nine days. Many would have been tempted to add a little calomel to the opium; but when we recollect the intense inflammation which must have existed to give rise to such continued pain, we are driven to admit that the least excitement in the shape of peristaltic motion might have raised the inflammation to a fatal degree.

It would appear from this case, that it was a favourable circumstance that the wheel, instead of passing across the hypochondrium, pressed upon the umbilical region, for the liver and spleen offering, in the first place, greater resistance than the convolutions of intestines, are more likely to be lacerated, which circumstance is almost always followed by the death of the subject. It is interesting to observe what large quantities of opium are borne under a high state of irritation of the system; the patient, a boy five years and a half old, took about twenty-two minims of laudanum per diem for about ten days without any unpleasant symptoms, and even without an unusual amount of sleep. In witnessing such a case as the preceding, the question naturally arises whether the inflammation of the peritonæum has left any traces in the abdominal cavity, and whether the probable fibrinous exudations will eventually be absorbed, or interfere with the regular action of the bowels. The answer probably lies between the two extremes. We cannot close the report of this valuable case without adverting to the close connexion between medicine and surgery which is here illustrated, and we concur in the received opinion that a man cannot be a good surgeon unless he, at the same time, be a good physician.

ST. GEORGE'S HOSPITAL.

Obliterated Brachial Artery, with Compound Fracture of the Humerus.

(Under the care of Mr. Cæsar Hawkins.)

When a limb has suffered compound fracture of a severe description, the question of amputation will be materially influenced by the amount of injury which the large vessels have sustained; and it has in general been found an excellent rule to remove the limb when an important artery is wounded, and the other circumstances of the case do not contra-indicate such an operation. But it may happen that a compound fracture be accompanied by an injury to the principal artery of the limb, which, without wounding the same, may suspend the circulation through it; in such case the rule is not so clear, and the surgeon must evidently be guided by various considerations before he determines on a decided course. The more or less likelihood of the circulation being re-established by the collateral vessels must of course have considerable weight in the question. A case of this description came lately under the care of Mr. Hawkins, and we consider it will be extremely useful to report it with full details, as such instances are calculated to serve as guides in cases of a similar nature. We are indebted for the particulars to Mr. Francis Day, one of Mr. Hawkins's dressers.

The patient is a market-gardener, twenty-eight years of age, who was admitted under the care of Mr. Hawkins, June 4th, 1850. He is tall and healthy in appearance, but of very drunken habits, and when received into the hospital, at three o'clock in the morning, he was in a state of intoxication and more or less collapse. An hour before, he had suffered a severe compound fracture of the right arm, caused by falling off the shafts of a waggon, the wheel of which passed over the arm. On examination, three wounds were seen near the seat of the fracture, the latter being situated about the upper part of the middle third of the humerus. One of the wounds was situated on the outer side of the arm; it was about two inches long, and bone was easily detected at the bottom of it, the soft parts within this solution of continuity being greatly destroyed. Two other wounds were noticed on the inner and the posterior part of the arm; muscle protruded through them, and blood likewise exuded, but to a small amount. The patient was reported not to have lost any more blood than was seen on the sleeve, which was saturated to some extent, but not alarmingly. The hand was perfectly cold, but as the whole surface of the body presented a very low temperature, the coldness of the hand was attributed partly to the state of collapse, and partly to the loss of blood.

The limb was placed on an angular splint, the edges of the wound brought together by a plaster, and three short splints applied, one to the inner, a second to the outer, and the third to the anterior surface of the arm; the latter being raised on a cushion. The collapse having passed off in a few hours, the hand and forearm were found to be still cold; and sensation seemed to be more or less lost at the outer side of the thumb, and index finger, and at the back of the hand. Pulsation could be felt in the brachial artery, above the seat of the fracture, but none could be detected at the bend of the elbow, or at the radial or ulnar arteries. The hand had, however, retained its natural colour, the face was flushed, and the patient seemed in great pain. A consultation was held in the middle of the day, when it was decided not to amputate the arm at once, but to wait and see whether collateral circulation would be established, reserving the removal of the limb till gangrene had commenced.

The patient, though he took an opiate, suffered great pain during the night, and the next day the forearm and hand were still cold, nor had any appreciable sensation returned to these parts. Ammonia, in saline draughts, and an opiate, were prescribed; but, on the third day, the skin at the bend of the elbow was found in a state of gangrene, and vesicated; and as the wounds looked rather tense, a few incisions were made into them with great relief. Patient was ordered good diet and porter, but on the fourth day the gangrene began to spread on the outside of the arm, and severe symptomatic fever set in with great pain in the side and abdomen. On the fifth day, the gangrene involved the deeper structures, and Mr. Hawkins then resolved, after consultation, to amputate immediately.

The patient was placed under the influence of chloroform, and Mr. Hawkins, taking his stand to the inside of the arm, so as to steady the comminuted parts during the process of sawing, removed the limb by the circular incision about an inch and a half from the shoulder-joint, the subclavian artery being compressed by Mr. Prescott Hewett above the clavicle.

The patient proceeded very favourable after the operation; nothing of importance happened during the next two months, at the expiration of which the stump was quite healed, and the patient discharged in good condition.

A careful dissection of the amputated arm showed that superficial gangrene had occurred in several places, affecting large patches of skin, both in the arm and forearm; in the latter, however, it was only in an incipient stage. Lymph and serum were effused in the subcutaneous tissues throughout the limb, but especially in the arm; in the latter region there were also large cavities containing ill-formed pus, both in the subcutaneous and deeper textures. The muscles at the middle part of the arm were much torn, and the bone, broken at its centre, was comminuted and bathed in pus. Both the superficial and deep veins were extensively clogged up by coagula, especially the venæ comites of the brachial artery. The latter was also found blocked up by a firm coagulum adhering to its internal coat, measuring about one inch in length. This coagulum was situated at about three inches above the elbow joint; the other portions of the artery were pervious, and quite sound, and the nerves were not found injured.

It would appear that the violence of the injury, when it reached the brachial artery, principally affected the inner and perhaps the middle coat, in the manner of the ligature, producing, like the latter, a complete obliteration of the vessel. It can hardly be wondered at that the collateral circulation did not become established, for that beautiful provision of nature may sometimes be tardy even in a perfectly sound limb, and partial gangrene take place, so that there was but a small chance of the collateral branches acting powerfully in this instance, as the whole limb had suffered so great a shock. Thus, amputation was the only means of saving life, and the healing of the stump required no small amount of care, as the patient had undermined his health by habits of intemperance.

Cancer of the Lip.—The connexion of Chancre, Cancer, and Farcy.—Necrosis of Tibia.

(Under the care of Mr. CUTLER.)

On the 6th of August, last, we saw Mr. Cutler remove, in the usual manner, part of the lower lip of a man, about sixty years of age, which was affected with cancer. After the operation, Mr. Cutler mentioned some circumstances connected with malignant growths, which are of great interest.

The lip is often affected with an ulceration of a doubtful nature, and it may occur that the surgeon wavers between chancre and cancer. In doubtful cases, Mr. Cutler is in the habit of giving mercury, and has several times succeeded in controlling ulcerations which were at first looked upon as malignant. But it appears that not only those sores which are of a syphilitic origin are under the control of mercury, but even such as are excited in man by the contact of the farcy virus. Mr. Cutler cited an example of this fact. He stated, that while he was serving in the Life Guards, the farrier of the regiment applied to him for an ulcer of the lip, which had all the appearance of a malignant growth. The sore had resisted various modes of treatment, and it looked so malignant that Mr. Cutler advised his patient to ask for his discharge. While it was being obtained, Mr. Cutler put the man under a course of mercury, which made such an impression upon the ulcer, that it was healed when the discharge arrived. This success would have favoured the idea that the sore had some connexion with syphilis, but it turned out that another animal poison had been concerned in its production.

The farrier, namely, stated that he had had under his care a horse affected with farcy, and that while attending to the horse he had often carried his hand to his own lip. It might thus be conjectured that the mercury had exerted some influence on an ulceration connected with farcy. To this supposition was given much weight by a second case, where it was clear that the virus of farcy had inoculated the patient. The latter was suffering from an ulceration, situated on one of the metacarpo-phalangeal articulations of the right hand. The nature of the sore remained a long time undiscovered, and when the man came under Mr. Cutler's care there were still doubts concerning its origin, though it was suspected to be syphilitic. The patient, however, was a married man, and denied having committed any indiscretions. Mr. Cutler, therefore, gave an accurate description of the sore to the late Mr. Field, the veterinary surgeon, who at once exclaimed that it was a farcy bud. The patient was then placed under the influence of mercury, his case being considered analogous to the one above mentioned, and the result was most favourable.

Seeing the success with which the administration of mercury was attended in these two cases, it might fairly be asked whether the ulcers in question were really and truly malignant. Mr. Cutler's opinion on the subject is, that these ulcerations were of such a nature as readily to become malignant, if allowed to luxuriate where they had sprung up. As to the effect of the mercury upon them, it would be difficult to decide in virtue of which principle such an effect is produced, though it should never be forgotten that it was firmly believed by some older authors, particularly natives of Spain, that the epidemic of the fifteenth century, which was remarkable for the ravages of syphilis, arose from the poison of glanders.

Mr. Cutler stated that the man just operated on was not a favourable subject for trying the effects of mercury; for he was rather advanced in age, and the submaxillary glands were showing signs of enlargement. The patient has since progressed remarkably well, and left the hospital shortly after the operation, without one bad symptom.

Mr. Cutler operated, on the same day, upon a lad, about eighteen years of age, who had had severe inflammation of the tibia about nine years previously. There had been the usual series of symptoms—viz., the formation of abscesses and subsequent fistulæ, with more or less caries and necrosis of bone. The peculiarity of the case was the almost complete extrusion of the dead bone, which presented an osseous mass, of dark colour, about four inches in length, completely deprived of vitality, and protruding from the upper part of the lower third of the tibia. It would appear that the old shaft, instead of being closely surrounded by new bone, was gradually displaced by the growth of the latter. By the assistance of the cutting pliers, trephine, and gouge, Mr. Cutler succeeded in removing this necrosed portion of bone, and thus freed the limb from this source of irritation.

Another feature of the case worthy of note was a contraction of the flexor muscles of the leg, which could not be overcome, and which will eventually necessitate the division of the tendo-Achillis, and the application of a proper apparatus for giving the limb its former direction. We have reason to believe that such contractions occur in many cases of this nature: the patient experiences much pain when the inflammation is in the acute stage, and he keeps his foot and leg in a bent position, to avoid pain. This points forcibly to the necessity of attending to the situation of the limb in all chronic affections of the lower extremity; and though it is often extremely difficult to persuade patients to submit to a little pain and restraint, much subsequent suffering and deformity may be avoided by a little firmness, and the use of appropriate splints and bandages. It is especially in the acute form of hip disease that preventive measures are of avail, and we have seen a great deal of good effected in such cases by vigorous antiphlogistic measures and proper position of the limb. Mr. Cutler's patient has done extremely well; the wounds healed kindly, and he left the hospital in a favourable condition.

Gun-Shot Wound.

(Under the care of Mr. Cæsar Hawkins.)

Although the surgeon in civil practice is rarely called upon to treat gun-shot wounds, he may now and then have cases of this description under his care, and it is incumbent upon him not to neglect any information on this subject. This seems to be the more necessary as the practice in cases of gun-shot wounds is far from being settled, especially if we are to judge from the discussion which took place at the Academy of Medicine of Paris, after the civil war in the French capital. The points where the greatest difference existed were: the necessity of enlarging the wound made by the ball, to facilitate the escape of the pus or foreign bodies, the relative size between the aperture of entrance and that of exit, and the use of ice for powerfully controlling inflammatory symptoms. Be it noticed that no definite solution of any of the questions was arrived at.

The case under the care of Mr. Hawkins did not present the same doubts as to the course of the projectile as that lately under the care of Mr. Hilton, at Guy's Hospital; the aperture of entrance and exit of the charge of shots were plainly apparent, but there were several circumstances of a complicating nature which render the case instructive, and among these we may name the lesion sustained by the main artery of the limb. We are indebted for the following outline of the case to Mr. Francis Day, the dresser of the patient.

The latter is a gun-maker, twenty-one years of age, of previous good health, and temperate habits, who was admitted under the care of Mr. Hawkins, Sept. 22, 1850. It appears that an hour before admission, the patient was rowing in a boat off Wandsworth, a gun lying by his side, so that the muzzle was about one yard behind him; the gun was loaded with No. 8 shot, when, by some mischance, it went off, and the charge struck the patient's left leg. He felt a numbing sensation, but no actual pain, and was taken immediately to a surgeon, who, seeing that arterial hæmorrhage was going on, though not profusely, tied a handkerchief firmly round the thigh a little above the knee, which measure stopped the bleeding, and the patient was conveyed to St. George's Hospital. No pain, but a certain amount of numbness, was then complained of; this probably arose from the compression round the thigh. There was much prostration, and, on examination, a round wound, about the size of a shilling, the edges of which looked burned, was found on the posterior aspect of the left leg, about two inches below the head of the fibula. On the anterior part of the same limb, and about two inches lower down than the preceding wound, another about three inches long was discovered. The tibialis anticus and extensor longus digitorum were there shot through, and much lacerated and scorched, each being turned down from the lower part of the wound, over the portion of the leg immediately below. On inserting the finger into the anterior wound, it was perceived that it communicated with the posterior one through the peronæus longus muscle, the fibula itself being comminuted, though it did not seem that all or most of the charge had gone through the bone. The tibia and periosteum covering it were uninjured.

When Mr. Hawkins saw the patient, and all pressure was removed, hæmorrhage of a distinctly arterial character immediately commenced from the anterior wound, and also welled up from the posterior aperture. An artery, which appeared to be the anterior tibial, was tied above and below the wounded spot, a double ligature having been passed under the vessel. Mr. Hawkins found it likewise necessary to tie a muscular arterial branch. The burnt and lacerated ends of the muscles were not removed, the limb was left exposed to the air, and a piece of lint, dipped in a solution of sulphate of copper, was to be placed into the wound, round the fibula, towards the site of the peronæal artery, if the hæmorrhage did not cease; a compressor arteriæ was besides placed loosely around the thigh, with directions that if violent hæmorrhage came on, it should be tightened.

In the evening, the anterior tibial artery was distinctly felt pulsating just above the tendon of the extensor proprius pollicis. As blood still oozed out, the lint dipped in the above-named solution, was put in, and two compresses placed on the anterior wound. The detached and everted muscles looked livid, but the patient felt tolerably easy.

On the second day the wound looked well, water-dressing was applied over the compresses, and a mercurial purgative ordered. During the third and fourth days, the everted muscles turned gangrenous, and sloughing spots appeared on the tibialis anticus. The foot remained of the natural temperature, though it had been very cold on the second day. Chloride of soda lotion to the sphacelated parts, and a poultice, with chloride of zinc lotion, to the wound, and a mercurial purgative, were then ordered. On the sixth day, the wounds now dressed with sulphate of iron lotion, looked well, and the foot was made to project over the end of the pillow, to forestal inflammation of the heel. The sloughs from the muscles were slowly separating. On the eleventh day, the foot which had been swollen and red, looked more healthy, and a piece of the anterior part of the fibula came away. It was a little more than one inch long, and its external surface and medullary canal were charred by the action of the powder. A distinct fluctuation being perceptible at the outside of the leg, below the seat of the fracture, a small incision was made in a depending position, and a piece of oiled silk passed from the anterior wound down through the counter-opening. On the nineteenth day, healthy granulations were springing up over the surface of the wound, but the margins were a little red. A lotion, composed of two drachms of extract of conium, and half a drachm of acetate of lead solution to half a pint of water, was ordered, and the patient allowed four ounces of wine daily. On the thirtieth day the patient was getting strong, though the posterior wound was still discharging a sanious pus. It was found necessary to enlarge the incision previously made on the external part of the leg; some fœtid, purulent matter was discharged, and the patient progressed so favourably, that on the forty-fourth day the wounds were almost cicatrized.

This case presented one very favourable feature—viz., distinct apertures formed by the entrance and exit of the charge; another such feature was the very slight lesion which the fibula sustained, the tibia having altogether escaped; and a third, the readiness with which the wounded artery was secured, and collateral circulation established. Though there were two openings for the discharge, through one of which the necrosed portion of the fibula was extruded, a collection of matter took place on the outer side of the limb. The formation of abscess, which is in gun-shot wounds so troublesome a complication, assumed, in this case, a trifling character. Another very interesting point of practice was the manner of treating the everted, thick and extensively detached and sloughing muscles. At first sight one would have been tempted to remove these parts by the knife; but allowing them to slough away was less hazardous, and the sequel proved the prudence of that view of the case.

Enchondroma.

(Under the care of Mr. Tatum.)

It is certainly very painful to the surgeon when he finds himself unable to afford his patient the relief which the latter is seeking; but it happens, in many circumstances, that the nature and situation of tumours and growths of various kinds forbid interference. Mr. Tatum had lately under his care a patient affected with a large tumour in the right hypochondrium, of such a description and connections as to leave no doubt regarding the propriety of not attempting its removal; and we are induced to give a few details of the case, taken from Mr. Day's notes, principally on account of the nature of the tumour, which is not very common.

The patient is a farm-labourer, twenty-three years of age, who was admitted into Fitzwilliam ward, in June, 1850, under the care of Mr. Tatum. He is of middle height, light complexion, and has not lost flesh lately. His health has always been pretty good, and his diet of a wholesome kind; nor can any particular diathesis be traced in his family, as his father died at thirty-two years of age, from ruptured gall-bladder, and one of his brothers was carried off in a fit; the rest of the family being alive and well. The patient stated that about eight years ago he received a kick from a man on the right side of the chest, which gave him a great deal of pain at the time; and, *almost directly afterwards*, he perceived a swelling at the same spot, which had ever since gradually continued to increase. About six months before his admission, the tumour began to increase very rapidly.

On being examined, the tumour was found hard and nodulated, and situated in the right hypochondrium; it could be moved from above downwards, but not from before backwards. The growth extended from the eighth rib, to within an inch of the crest of the ilium. It occupied the whole of the side of the chest, was very prominent; had increased considerably of late, and pushed the liver to the left side. On examining the viscera of the chest, the apex of the heart was found beating between the fifth and sixth rib, four inches from the median line, the respiration was neither short nor hurried. The tumour measured twenty-one inches in circumference at the base, sixteen from above downwards, and ten in the transverse direction. No pain was experienced on pressure, but there was a small tumour towards the right side, and on a level with the gall-bladder, which was rather painful when pressed. The patient likewise complained of great pain in that lesser growth, especially at night, which pain often kept him awake. There was dulness on percussion along the eighth rib, and below it, on the right side, and from the ensiform cartilage half way to the umbilicus.

Mr. Tatum examined this growth with great care, and it appeared to him to present the various external characteristics ascribed by Müller to enchondroma; and as the tumour was of very large size and firmly adherent to the parts within, he thought it unsafe to attempt its removal. The patient remained in the hospital for some time, various applications to the tumour being tried, but he was finally discharged, and may probably look forward to some years of life, as enchondromatous growths are more dangerous from their bulk and inconvenience than from any power of undermining the general health.

It will be noticed that the large tumour gave the patient no pain, the smaller one only, evidently by its internal connexions, was tender on pressure. Pain, as will be recollected, is not a symptom of this kind of growth; but there are exceptions to the rule: Mr. Fergusson, for instance, removed at King's College Hospital an enchondromatous tumour situated on the metacarpal bone and first phalanx of the middle finger. Here the patient, a female about forty years of age, had experienced such pain in these tumours, that the hand had become useless. The growths had sprung up from the periosteum, and it is very probable that in Mr. Tatum's case the tumour had principally arisen from the cartilages of the ribs and the periosteum of the latter bones. Enchondroma seems to be mostly connected with bone; but such a tumour may likewise spring up in or about glands, as was exemplified by a specimen brought before the Pathological Society in February, 1850, by Mr. Solly. The tumour was in this case situated by the internal side of the parotid gland, and firmly attached to the deep process of the cervical fascia which covers the internal carotid behind the ascending ramus of the jaw.

That enchondroma is not a malignant formation is well known; still it bears now and then such a resemblance to colloid cancer, that Dr. Walshe has given a few lines in his work to the differential diagnosis of the two affections. From this passage we extract the following contrasted features:—"Colloid cancer does not originate in bone, which is the chosen seat of enchondroma. Enchondroma never infiltrates adjacent structures; colloid cancer frequently. Colloid never contains patches of bone; enchondroma does so almost invariably. Enchondroma yields chondrin or in rare cases gluten; colloid furnishes no gluten, and belongs to the protein class of growths. Colloid affects the constitution *per se*; enchondroma simply (in the rare instances in which it does so) in the same manner as fibrous tumours."

WESTMINSTER HOSPITAL.

Spontaneous Dislocations.

(Under the care of Mr. Holt.)

Luxations, from whatever cause they may have occurred, form a very important subdivision in the various lesions which the surgeon is called upon to treat; and it is acknowledged on all hands that the reduction of displaced bones often entails a vast deal more trouble and anxiety to the practitioner than some bad wounds or fractures. In private practice, and in the country, it is sometimes extremely difficult to secure intelligent assistants and the proper apparatus; but such obstacles do not exist in hospitals, and failures in these institutions are almost always owing to the old date of the luxation, or to some complication of unusual occurrence. Yet even with dislocations of old standing, the surgeon may succeed in his efforts at reduction. We recollect, in this respect, the case of a woman, about sixty years of age, whose humerus had been dislocated into the axilla for three months. She was placed under the influence of chloroform at the Middlesex Hospital, and Mr. De Morgan and Mr. Moore succeeded, by the judicious use of the pulleys, and subsequent traction from below upwards, in reducing the luxation. The patient remained several weeks in the hospital, and ultimately did well.

Dislocations of long standing are, however, less amenable to reduction in such a powerful joint as the hip. We remember having seen the best efforts fail of effecting reduction, at King's College Hospital, in a strong girl, about twenty years of age, where the displacement had existed for about the same time as in the case just mentioned. We venture to express the opinion, that a surgeon who is trying to reduce an old dislocation, aided by chloroform, acts very wisely when he does not allow the maximum force of extension to be used, as accidents worse than the luxation which is being treated may easily occur, at a time when the system is under the relaxing influence of the chloroform.

But it is not only in cases similar to the above that difficulties are encountered; spontaneous luxations will sometimes prove very troublesome, by entailing upon the patient a liability to the frequent repetition of the displacement. Paralysis of the muscles of a joint, looseness of the ligaments, destruction both of the latter and the cartilages, by disease, may cause what is generally termed spontaneous, and still more justly, *gradual*, dislocations. These will require various methods of treatment, according to the remote cause of the displacement; but certain luxations of this kind may occur, when different circumstances, among which the age of the patient has great weight, will prevent the surgeon from making any continued attempts in re-establishing the normal relations of the articular surfaces. We noticed, a short time ago, a case of this description among the patients of Mr. Holt, the particulars of which are of a very peculiar character.

The subject is a thin, spare woman, seventy years of age, who was admitted July 25, 1850. She has mostly resided in a healthy neighbourhood, near Dalston, where she was engaged for many hours in the day in making waistcoats. The patient is a widow, and has had one child; she never suffered from any uterine affection; her offspring is perfectly healthy, and she has always been able to supply herself with a sufficiency of wholesome food. For the last thirty-five years she has been troubled with tic douloureux in the thighs, legs, and feet, this affection presenting the usual intermittent characters, for it begins generally in the middle of the day, and leaves her towards the evening. As is usual with these nervous affections, the general health did not suffer; although the pain was, and is at this moment, excruciating, and causing her to cry aloud with agony. The tic would, however, sometimes leave her altogether, but the longest time she ever was without it was one month. Patient found no difficulty in walking when the fit was not upon her; she slept well, and did not perceive for the long space of time above mentioned that either the knee or ankle-joints of either leg were especially suffering from the persistence of the tic. About two years since, whilst walking in the street, she felt something give way on her right knee, and was forced to sit down on a step. Though she did not experience a great amount of pain, she was unable to walk, and was first driven in a cab to her friends', and subsequently to the Westminster Hospital.

On admission, Mr. Holt found the left knee much swollen, but pressure on the joint did not give particular pain, and when the œdema had been dispelled by appropriate means, it was found that the tibia was slightly dislocated inwards. The reduction was effected without any difficulty, and the joint well secured by long cylindrical pads on either side. When the apparatus was taken off a little time afterwards, the luxation occurred again immediately; it was reduced as easily as before, and the leg put up in splints. The patient remained between five and six months in the hospital, but the ligaments did not regain their former power, for the knee was just as liable to displacement, and as easily reduced, as in the first instance. Mr. Holt therefore directed a gutta percha box to be prepared for the knee; this apparatus allowed tolerably easy walking, and the patient was discharged.

She remained at home for four months, and after this lapse of time, during which she had suffered from tic as usual, she came to the hospital for the purpose of paying a visit to the nurse who had previously taken care of her. Whilst the patient was in the ward, it was discovered that she had erysipelas of the right leg; this was immediately attended to. She remained in the house, and four days after this second admission, Mr. Holt, in examining the leg, found that the right ankle was now likewise dislocated. This second displacement had happened without the patient being aware of it, without pain, and according to all appearance, whilst she was *in bed* The inflammatory attack soon subsided, and no doubt was left concerning the luxation which had occurred in the ankle, the joint being just as easily dislocated and reduced as had been the case with the knee.

No direct mechanical means were used, except gutta percha casing for the knee, and tight bandaging for the ankle; the former of these articulations, when last examined, presented the following appearances:—The patella is drawn upwards, and rests on the lower third of the femur; the tibia is dislocated inwards; the two articular surfaces of this bone are very prominent in front, and the internal one projects considerably inwards, having slipped from the internal condyle of the femur. Both joints are now fixed and unyielding; there is no pain on pressure, and the patient complains principally of her tic, which is troubling her now as much as it ever did.

Now, it might fairly be asked, whether the last-mentioned disease has had much, or any, influence on the production of the above-named dislocations? Without venturing to decide the question, we would suggest that a purely nervous affection is not likely to engender or excite a pathological change in joints, and that gradual alterations, both in the structure of the synovial membranes and ligaments, have had a large share of influence on the occurrence of the two luxations. We are aware that this is not looked upon as a common cause, and we firmly believe that this case could not be easily classed among the spontaneous dislocations mentioned by authors.

If we refer to some writers on the subject, we generally find that kind of spontaneous luxations mentioned as are caused by the elongation of the ligaments and capsule, where the reduction and a fresh dislocation follow each other with great ease, and the joint is far from being fixed. It is principally to the instructive paper published by Mr. Stanley, in the twenty-fourth volume of the *Medico-Chirurgical Transactions*, that we should turn for information on this subject. The author mentions seven cases of spontaneous dislocation, which arose from various causes, independent of external violence, or any destructive process in the joint. In the first and second cases, the displacement of the head of the femur took place from impaired nervous power. In the third and fifth cases, the dislocation of the hip must be viewed as the consequence of rheumatic inflammation; and in the fourth, the dislocation had the same cause, though treated for sciatica. In all the three latter there was elongation of the capsule. Mr. Stanley states that his colleague, Mr. Wormald, directed his attention to the following case:—A man, about forty, stated to Mr. Wormald, as out-patient, that about three years previously he caught a severe cold, immediately after which his knee became weak and swollen, and that there succeeded a very gradual alteration in the form of the joint, but unaccompanied by pain or other sign of inflammation. The articular surfaces were displaced to such an extent that the head of the tibia projected a full inch on the inner side of, and a little behind, the inner condyle of the femur, with a corresponding hollow on the outer side of the joint, and some fluid in the cavity of the articulation could be felt on either side of the patella.

Whether Mr. Holt's patient met with her dislocations from *impaired nervous power*, as happened in one of the cases mentioned by Mr. Stanley, we do not pretend to decide, but we have had much pleasure in laying the case before our readers, as embodying valuable facts connected with *gradual dislocations.*

ST. THOMAS'S HOSPITAL.

Popliteal Aneurism; Tying of the Femoral Artery; Recovery. A New Aneurism-Needle.

(Under the care of Mr. Le Gros Clark.)

It is interesting to look back on the various phases of the treatment of external aneurism, and modern surgery may well be proud of the gigantic strides which have been made within the last hundred years. Hunter's and Scarpa's share in these improvements must ever give them a place (were this even their only merit) among the benefactors of the human race. But great credit is likewise due to surgeons of our own times, for reviving the use of compression, regulated so as to lessen the force of the circulation, and promote the solidification of the aneurismal tumour; and the Irish school has done much to promote improvements in the instruments used for that purpose. Dr. Bellingham, who has worthily laboured in the cause of compression, has not yet succeeded in converting all his professional brethren to his opinion, if we are to judge from the London practice, and from the condemnations which have issued from North Britain. As the question is still *sub judice*, it would be rash and presumptuous to offer a decided opinion on the subject; but we will venture to say, that it would be extremely useful if a competent surgeon would take the trouble of impartially examining the question, and give the profession his opinion, not whether one of the two lines of practice (the ligature or compression) is the best, but in which cases, and under what circumstances, either is to be applied.

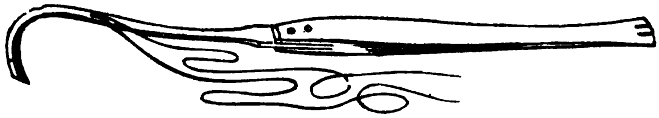
It will be perceived by the following case, that Mr. Le Gros Clark is not wedded to any particular mode of treating such cases, for he would have tried compression whilst his patient was in a favourable condition for such treatment, but resorted to the ligature when delay had put other means out of the question. We proceed to give an outline of the case.

The patient is a man of forty-eight, robust, and of florid complexion, accustomed to active exercise, being a woodman on a large estate. He was admitted June 15th, under the care of Mr. Le Gros Clark. About six months before the patient presented himself at the hospital, his attention was first attracted to the affected limb by a pain extending from the hip to the ankle, and especially about the knee. He applied to Mr. Curtis, of Harting, Sussex, who at once detected a swelling in the ham, and ascertained its nature to be aneurismal. There was some œdema of the leg at the time. The patient was first seen by Mr. Clark, March 24th, who urged him to enter the hospital at once, but the patient declined doing so. The tumour was, *then* about the size of a duck's egg, and occupied the upper and *outer* part of the popliteal space; it pulsated strongly, but the impulse could be arrested by pressure on the femoral artery, and the sac partially emptied. When admitted in June, however, nearly the *whole* ham was occupied by the tumour, which was also much more solid than before, from the increased deposit of fibrine, so that but little impression could be made on the sac by pressure on the artery. The pain in the limb was very great, and described as sometimes excessive; the thigh and leg presenting a certain amount of œdema and venous congestion. The patient had been following his usual occupations up to his admission, his health was good, and the viscera of the chest were found in a normal state.

After the man had been duly prepared, Mr. Le Gros Clark tied the femoral artery, in the usual way, five days after admission. The patient proved very excitable both during and after the operation. In the evening the temperature of the operated limb was slightly below that of the sound one; there was no pulsation either in the sac or arteries; and as the excitability continued, twenty minims of Battley's solution were ordered, and to be repeated if necessary. Two doses were required to procure rest, and on the next day the wound looked healthy; the pulse was 106, the skin hot, and thirst great. Temperature of the popliteal space on the operated side, 101°; on the sound side, 99½°. On the second day, Mr. Clark, finding his patient rather weak, ordered two ounces of gin, which had been the man's accustomed beverage; and on the third, he expressed a desire for food. The wound looking rather sluggish, the diet was gradually increased, and the patient improved rapidly. On the fifteenth day the ligature came away in the dressings, and the patient returned home (the wound being nearly healed) about one month after the operation; there had been no pulsation either in the sac or arteries below the ligature since the latter had been applied. The patient was seen about three weeks after his discharge and was doing well.

Mr. Le Gros Clark remarked at the time of the operation, that when he saw the patient at an earlier period, he urged him to submit at once to treatment for the cure of the disease; and he had intended trying compression on the femoral artery at two different points, so as to keep up a certain amount of resistance to the flow of blood without risk to the superjacent soft parts. The progress of the disease, the increased size of the tumour, now occupying the entire popliteal space; the œdema of the limb, the suffering of the patient, and his extreme constitutional excitability—all concurred in forbidding that course. The application of a ligature on the trunk of the artery, in the usual position, was therefore the only alternative which offered itself.

Mr. Clark used in this operation a new aneurism-needle, manufactured by Mr. Bigg, of St. Thomas's-street, represented in the annexed woodcut:—



This needle is composed of an oval silver stem, a portion of the extremity of which (about half an inch) is hollow, to receive the point which is bulbous, and takes off at will. This bulb has a thin prolongation backwards, containing the eye, so that the ligature is concealed within the cavity of the bend of the instrument, and hangs loosely from its posterior aspect a few lines below the beginning of the curve. The thread being thus disposed, offers no obstruction whilst the needle is passing under the artery; and when the operator finds it necessary to cut through any fascia that may resist the point of the instrument, he does not run the risk of dividing the silk. The needle is furnished with an ivory handle, having two deep notches cut in the end, for the purpose of winding the ligature round the extremity of the handle, and rendering the instrument firm. Simplicity seems to be the great quality of this needle; for in Mott's the point is screwed off from behind the curve; in Kirby's there is a loose pair of forceps resting in a groove, which seizes the point of the needle, and withdraws it from the sheath or handle; and Le Strange has added a sliding canula to Mott's needle by which the screw is fixed, and the possibility of the point shifting during the operation prevented. In fact, several aneurism-needles have been invented to accomplish the purposes above described, but, from their complicated nature, have one after another been laid aside.

Scrofulous Abscess of the Left Kidney, communicating with the Lung, on the same side, and opened by Puncture externally.

(Under the care of Mr. Simon.)

Acute or chronic nephritis is generally excited by the presence and irritation of calculous concretions; but inflammation of the kidney may, though more rarely, arise independently of stone. If we look at the records of medicine concerning the idiopathic disease, we shall find that in a great number of cases the inflammation has been intense enough to provoke the formation of abscess, such cases being almost always fatal, though here and there patients have recovered with one kidney disorganized, the purulent matter having found exit through the ureter and bladder. The chances of recovery would seem to depend upon the manner in which the pus of the abscess is disposed of. It may be supposed that very purulent collections are again absorbed; and when the matter does not find its way into the ureter, it either tends towards the surface, and the abscess points in the loins, or it causes ulceration in the diaphragm, penetrates a bronchial tube, and is coughed up, as sometimes happens in hepatic abscess. In Mr. Simon's case a very unusual combination of circumstances was manifested; for the renal abscess not only pointed in the loins, but communicated with a similar purulent focus which had formed in the lung, the abscess in the kidney having, as it were, two communications with the atmosphere. We have to thank Mr. Keyworth for the particulars of the case.

The patient was a girl, twenty-two years of age, admitted under the care of Dr. Barker, in November, 1849; she was pale, anæmic, looked very much out of health, and had lived in service with a laundress. Early in the preceding summer, after exerting herself she had been seized with a sudden sharp pain in the left side, which continued for a day or two, and compelled her to leave her situation. A few days' afterwards, a sudden exertion which she made, was succeeded by inability to retain her urine; a very severe pain was then felt in the hypogastric region, and that fluid became mixed with blood. The desire of micturition was almost continual, but the effort at emptying the bladder was succeeded by the discharge of a very small quantity of urine, which was voided with a horrible cutting pain in the urethra. This state continued more or less up to the time of the patient's admission, the urine continually dribbling away, and frequently stained with blood, or containing small clots. She had then become very weak, and experienced constant lancinating pains in the bladder, which frequently deprived her of rest. The patient had never had an attack of this kind; her health had, on the contrary, been good, menstruation had always been normally performed, and her family had in general been free from disease. Under the use of saline medicines, &c., considerable relief was experienced upon different occasions, but after having been three months in the hospital, a swelling formed in the region of the left kidney, the appearance of this tumour being preceded by rigors and prostration.

The swelling was, after a little while, punctured by Mr. Simon, (who had now taken charge of the patient,) which measure gave exit to a large quantity of pus, and a profuse purulent discharge continued to issue for some time from the opening thus made. The patient's health was very much shaken; she frequently experienced fits of vomiting, and after such symptoms had continued some weeks, she began to expectorate purulent matter. Various tonic remedies were employed; stimulants and nourishing diet were freely given in all possible ways, and, as circumstances required, opiates were administered to allay pain, which was sometimes extreme. She gradually, however, became weaker, being exhausted by the profuse discharge; diarrhœa, vomiting, perspiration, and other signs of prostration came on, and she died July 20, 1850, about eight months after her admission.

The post-mortem examination, which was conducted by Mr. Adams, demonstrator of morbid anatomy to the hospital, took place forty-eight hours afterwards. The body was much emaciated, and in the left lumbar region was a small opening, through which pus had recently been evacuated from the kidney. No alteration of importance was discovered in the *head*. In the *chest* the heart was found healthy; the right pleura was unaltered, but the lung studded with miliary tubercles; the left pleura was in good condition, with the exception of old and firm adhesions at the base of the lung. These were cut through in removing the organ, and in so doing the cavity of an abscess was laid open. Its walls were formed partly by thickened bands of false membrane passing from the base and side of the lung to the diaphragm, and partly by the substance of the lung, into which the abscess had extended. From this latter cavity the bronchial tubes did not appear to lead directly, although they must have done so some time previously. The abscess was evidently not recent; its walls had become thickened and contracted, and it led directly through the diaphragm, at its costal edge, into an abscess of the left kidney. The substance of the lung in the neighbourhood of the abscess was much congested, and the tubes contained pus; the remaining portions of the organ were healthy, with the exception of a few miliary tubercles. In the *abdomen*, the peritoneum was found in the normal state, save some firm adhesions in the vicinity of the left kidney, and the under surface of the diaphragm. The left kidney itself presented several scrofulous abscesses in its interior, by which nearly all the secreting structure was destroyed. The largest of these abscesses was situated at the upper part of the organ, and it communicated both with the external opening in the loins, and through the diaphragm, with the above described abscess situated at the base of the lung. The right kidney was rather congested, but otherwise apparently healthy. In the bladder, the mucous membrane was found removed, by ulceration, from nearly the entire surface; to that the muscular fasciculi were exposed; they were likewise covered with pus. The stomach, intestines, and liver presented no pathological alterations.

A circumstance worthy of notice is the amount of alteration which the *bladder* had suffered. From the very beginning of the disease, the pain in that viscus and the urethra were very severe, owing to the irritating qualities of the urine, whilst the inflammation of the kidney was at its height. The mucous membrane of the bladder sympathized in a remarkable manner with the affection of the kidney, for we find that the lining membrane of that receptacle "was removed by ulceration, leaving the muscular fasciculi exposed." But the influence of the nephritis was not only felt towards the pelvis; its effects on the diaphragm, and the abscess formed in the base of the lung, (abscesses being so rare in that organ,) prove that the affection of the kidney was of such a nature as to extend its baneful influence in many directions. There are probably few cases on record in which the abscess in the kidney not only opened into the lung, but exerted in that organ the formation of another abscess; and retained still sufficient power to cause the gradual thinning and absorption of parts towards the loins, so as to make its way towards the surface. In reviewing the description of the symptoms, the observer cannot help being struck with the fact that no pain in the thigh was complained of; he will also notice that the irritating qualities of the urine, at the outset of the disease, must have been considerable, as the patient suffered so much pain in the urethra and bladder; for it may be supposed that the right kidney was secreting urine of a healthier character than the left, though this fluid was not in sufficient quantity to dilute the irritating fluid secreted by the organ on the left side.

Scurvy.

(Under the care of Dr. RISDON BENNETT.)

Scurvy is now luckily a very rare disease, both on board our vessels and in the London hospitals. That the affection no longer makes such ravages among seafaring men, we owe, as every one knows, to the unfailing effects of lemon-juice; and that the malady reigns less among the people at large is probably the result of the abundance and low price of fresh vegetables, and the better hygienic regulations in our prisons, poor-houses, &c. The miserable state of some lascars who lately died at an English port victims to aggravated scurvy, shows, however, that neglect in providing crews with fresh vegetables, or at least with lemon-juice, if such vegetables cannot be had, will still give rise to a very severe form of the disease.

From the Registrar-General's quarterly return of deaths in London, ending September 30, 1850, we find, under the head "Purpura and Scurvy," that nine persons only died of those diseases during the quarter. In the same period, however, of 1849 there had been thirteen; the like number in 1848; and twenty-two in 1847. In the quarter above mentioned (viz, 1850) the whole number of deaths with specified causes was 11,520, and the deaths from purpura and scurvy, nine, which gives about 0.77 per cent. This per centage includes, however, both *purpura* and *scurvy;* though the two diseases are now recognised as distinct, thanks to Dr. Budd's investigations on the subject. Cazenave and Schedel, in the second edition of their work, consider the two diseases not sufficiently distinct to authorize a separation; and even in Dr. Guy's edition of Hooper's Vade Mecum, we find the following somewhat obscure classification:—"Purpura—Land Scurvy, and Purpura-Nautica—Scorbutus or Sea Scurvy." That purpura should no longer be reckoned among skin diseases is now generally acknowledged; but that purpura should be clearly distinguished from scurvy, both as it appears on land and at sea, is likewise desirable, for the following reasons, derived from Dr. Budd's researches. Scurvy occurs mostly from privation from succulent vegetables; purpura may arise when vegetables are being used. The gums are swelled and bleed in scurvy, but not necessarily in purpura. Scurvy is rendered worse by blood-letting and mercury, not so with purpura. Scurvy is cured by lemon juice, but purpura is not generally benefitted by vegetable juices, and often yields to venesection and cathartics. It would therefore be interesting, if we were told in the returns of the registrar-general what number of deaths have taken place from scurvy and purpura *respectively.*

We were led to trouble our readers with the foregoing remarks as a genuine case of scorbutus has just been discharged from St. Thomas's Hospital; and we forthwith proceed to give a few particulars of the same, which were kindly furnished by Mr. Complin, one of Dr. Bennett's clinical clerks. The patient is a married woman, aged thirty-seven years, who was admitted July

16, 1850, into Ann's ward, under the care of Dr. Bennett. She was rather delicate-looking, and stated, that about fourteen months ago she had a very severe attack of diarrhœa, which she attributed to the use of vegetables and fruit. Imbued with this idea, she left off vegetables entirely for three months, and resumed the use of them after that period. But, as she soon had another attack of diarrhœa, she entirely gave up the habit of eating green vegetables or fruit of any kind. The patient lived very scantily all the winter, eating nothing but gruel and farinaceous food, and partaking of meat only two or three times in a fortnight. Her health was nevertheless pretty good during this period, except at the time when the catamenia should have appeared; at which periods she sometimes lost a large quantity of blood; this menorrhagic attack being occasionally accompanied by epistaxis. She continued in about the same state until three months before admission, when she began to experience pain about her arms and legs; the attacks of epistaxis became more frequent and abundant, so much so, that she sometimes bled to syncope. Hæmorrhage now likewise came from the gums, and the latter became very tender and spongy. About this time the bowels became relaxed, and the patient subject to griping pains in the abdomen; the stools varying in colour, being sometimes almost black, and at other times of a light straw colour.

The poor woman did not seek medical advice, but tried to relieve the pain and tenderness of the gums by gargles of salt-and-water; these gave her some relief at first, but soon lost their efficacy. When these symptoms had continued for about two months, streaks of a yellowish-green colour appeared on the legs; their direction was in the long axis of the limb, and these ecchymosed lines were very tender to the touch. The gums were now gradually becoming more and more swollen and soft; they bled profusely, and the epistaxis also persisted. At the catamenial period the hæmorrhage was likewise very considerable. Patient made, meanwhile, no alteration in her diet, did not take any medicine, and had gradually grown worse up to the time of her admission, at which period she had daily attacks of epistaxis.

On careful examination the gums were found very vascular, considerably swelled, so as even to conceal some of the teeth from view, and they bled very frequently. The bowels had been rather constipated; the patient had a sallow anæmic appearance, and complained of great weakness. The menorrhagia had not occurred for the last five weeks, but there were pains in the loins. The legs were so painful and tender that the patient could with difficulty stand or walk, and a few greenish streaks were observed down the anterior parts of the legs, these lines being extremely painful, and the ankles rather œdematous. Patient evinced a desire for animal food; her tongue was pale and flabby, and marked with the indentations of the teeth; the pulse small and feeble, and the sleep much disturbed.

Here there were almost all the symptoms of the sea-scurvy, except that the hæmorrhage was not profuse, and the ecchymosis not very considerable. From the patient's statements the cause of the morbid manifestations could be clearly made out: the absence of succulent vegetables had been mainly concerned in the development of the disease, and the causes sometimes, but rather erroneously, supposed to be connected with scurvy, were absent; such as contagion, cold and damp, impure atmosphere, and the continued use of salt provisions. The likelihood of the latter cause used to be supported by actual experiment; thus we read, in the first volume of the "Library of Medicine," p. 48, "that an excess of the saline ingredients diminishes the coagulability of the blood, has been proved by experiments; hence we may derive an explanation of the state of the blood observed in that form of *scorbutus* which is caused by the long continuance of salted provisions."

Dr. Bennett ordered a drachm of compound powder of jalap to be given immediately, and prescribed the following tonic medicines: fifteen minims of the tincture of the sesquichloride of iron, and twenty of dilute hydrochloric acid, to be taken three times a day, in infusion of cascarilla. The patient had full diet, with a pint of porter daily. The purgative acted freely, and removed all griping. The food was on the second day taken without inconvenience, but the legs were very painful, particularly in the depending position, and the gums swollen and spongy. The patient was now ordered green vegetables with her dinner. On the fourth day the gums were less swelled, but still very vascular; they had bled very little since the patient's admission, and there had been no epistaxis; the legs were not so painful, save when in the erect posture; and the bowels being confined, (in spite of the green vegetables,) a purgative draught was ordered. On the eleventh day the bowels became rather relaxed, but the patient was improving in every respect; there was no epistaxis, and the bleeding from the gums was trifling. The appetite was good; but as the bowels were loose, Dr. Bennett desired the green vegetables to be omitted for a day or two.

The patient, however, soon resumed the use of the vegetables, and one month after admission she was evidently gaining strength; the gums were very much reduced in size, and less tender, though still vascular; the ecchymosed streaks of the legs had disappeared, and the patient could walk comfortably about the ward. After about seven weeks' stay in the hospital the patient was quite convalescent. She had regularly continued to take the steel and mineral acid in bitter infusion, and succulent vegetables, besides a generous diet. She was quite free from pain, and could masticate without feeling any uneasiness in the gums. No uterine hæmorrhage had taken place for the last three months; nor had the catamenia appeared during the same period. The patient was discharged in very good condition, the gums being slightly more vascular than in the normal state.

The efficacy, both of the lemon-juice and of fresh succulent vegetables, especially of the potato, seem now to be firmly established; whether these act in restoring to the blood the potash in which, according to Dr. Garrod, it is deficient in the scorbutic affection, time and further experiments will show. It is, in the meanwhile, worth noting how simple was the treatment adopted in the foregoing case. The patient had voluntarily proscribed green vegetables from her diet; these were ordered to be resumed; tonics and a generous diet were given, and the symptoms yielded in a very satisfactory manner. If we are often obliged to confess that some diseases are still imperfectly understood or treated, we certainly may congratulate ourselves upon the ready manner in which scurvy yields to the means employed; and though the actual change which takes place in the blood is not positively ascertained, we can at least cure the disease with lemon-juice or fresh vegetables, as we do syphilis with mercury, and ague with quinine. We act empirically, but we do good, and that is an important matter. It is likewise pleasing to notice, that as to the diagnosis of scurvy, we are far from the time when Willis said, (as quoted by Cazenave and Schedel,) "Si accidens quaddam inusitatum nec prius auditum in corpore humano eveniat, cum ad aliud certum morbi genus referri nequit, sine dubio statim, illud scorbuticum pronuntiamus." (Willis, de Scorbuto, cap. i. p. 14.)

ROYAL FREE HOSPITAL.

Fracture of the Thigh; Defective Union; Rupture of the Callus; Subsequent Resection; Amputation; Death; Autopsy.

(Under the care of Mr. Gay.)

Non-union of fractured bones may arise from numerous causes; these are sometimes obvious, but at other times they are extremely difficult to discover. Bad health, constitutional disease, mollities ossium, syphilis, and cancer, have in turn been mentioned; the two last causes, however, do not constantly prevent union, for bones have been known to knit well under the syphilitic or the cancerous diathesis. A very frequent cause, and one seldom alluded to, is the want of proper apposition; it is very probable that this circumstance has a great deal to do with those cases of un-united fractures which prove so troublesome. But interposed muscle, or sequestrum, or too severe pressure, may, on the other hand, materially retard, or altogether prevent union. Still the diagnosis is ever puzzling, and there are many cases on record where the conscientious surgeon was driven to confess that he could not discover the real cause of non-union.

Nor is it sometimes more easy to determine why *defective* union takes place, though ill-contrived apparatus, restlessness, and imperfect setting, are often the principal causes of this unpleasant result. The case which we have this day to bring before our readers, and which was lately under the care of Mr. Gay, combines, in an almost unique manner, the two unfavourable circumstances above named, which may accompany the fracture of bones; and we have no doubt that it will be read with much interest, and afford very useful practical data.

The patient was forty years of age, by trade a carpenter, and a remarkably fine man; he was admitted, under the care of Mr. Gay, July 13th, 1850. It would appear that about a twelvemonth previously he had fallen from a scaffold, and broken his right thigh, at the junction of the upper with the middle third. Every care and precaution was taken, but the muscles acting on the upper portion were so uncontrollable, that the bones could not be reduced to their normal position. The consequence was, that very imperfect angular union took place, the end of the upper fragment forming a very considerable prominence on the outer part of the anterior surface of the thigh, which limb was shortened by about four inches. Every surgeon is aware of the great tendency of the upper fragment to protrude outwards and forwards; we lately saw at King's College Hospital a very effective apparatus invented by Mr. Wood, the house-surgeon, intended to resist this propensity, and we shall have much pleasure in bringing it before our readers.

In this condition, the extremity of Mr. Gay's patient was not only useless, but an incumbrance, and the poor man was very anxious to have the deformity rectified. On examination, the upper fragment was so firmly fixed in the semi-flexed and abducted position, that no manual effort could move it; and this state of things appeared to be owing to three causes: 1st, the long contraction of the muscles acting upon the upper fragment; 2nd, the presumed attachment of its extremity to the cutaneous covering; and, 3rd, the connexion of the upper fragment with the lower; the former appearing to be in contact with, and partly united to, the posterior surface of the former, at the distance of one or two inches from its end. Mr. Gay, in contending with such deformity, suggested breaking the bones, at the point of union, and reducing them, if possible, to their proper relations with each other. The practice of rupturing the callus, in cases of this description, was strongly advocated by Dupuytren, who was herein following the method of the older surgeons, which had been so vigorously attacked by J. L. Petit. Dupuytren maintained that the callus might be ruptured when it still was in the provisional state, but Oesterlen has gone much further, and ruptures the callus even when it has arrived at its definitive period. Nélaton gives from six to twelve months for the rupture, in adults, and even longer in children; thus we see that Mr. Guy's patient was in a very favourable condition, as to time, for the operation.

Pulleys were therefore applied, on two different occasions, two days being allowed to intervene. On the first occasion, the patient being under the influence of chloroform, the limb was not much affected by the operation, although considerable force was made use of. On the second, however, a separation of the two portions of bone was affected, and the upper fragment, by maintaining a large amount of force for some time, was brought down, but not so completely that the points of the bone could be placed in apposition. Still the limb was improved. Four strong splints were applied, and the whole done up as securely as possible. It was, however, very obvious, from the direction which the upper fragment was taking, even after this operation, that Dessault's splint would not suffice in keeping the two portions of bone in the position which they had been made to assume, and that the only chance lay in surrounding the limb by an apparatus of splints adequate to the control of the muscles which acted upon the bones. It was soon found that the muscles reacted powerfully upon the limb; the following day the fragments had regained their former malposition, and the deformity was as great as ever.

It was now clear that, from the contractions of the muscles, the thigh was permanently shortened, and that the two portions of bone could only be brought together and placed in a position suitable for reunion by the resection of portions of their fractured extremities. Mr. Gay accordingly performed the operation in the presence of Dr. Heale, Mr. Wakley, Mr. Fergusson, and many other gentlemen, July 25th. An incision, four inches in length, was first made on the outer and front part of the thigh, over the broken ends of the bone; the extremity of the upper portion was readily denuded of the surrounding tissues, and an inch and a half removed by means of a small saw. It was now found necessary to enlarge the wound by an incision, about one inch in length, carried across the former, to allow the lower fragment to be brought into view. The bone was laid bare with some difficulty, and an inch of its extremity removed in the same manner as had been done for the upper fragment. A buttress of osseous matter was found adherent laterally to the piece of bone just mentioned, this support having evidently been thrown across to meet the upper fragment; this buttress had, however, been ruptured by the pulleys. Very little bleeding attended the operation. The wound was stitched up, and the patient placed in bed, his limb being supported by M'Intyre's splint.

Even now very great difficulty was experienced in keeping down the upper fragment, and it was found necessary, by means of an apparatus constructed for the purpose, to place the whole limb at a very considerable angle with the trunk, (about 45°,) the direction being outwards, in order that the long axis of the lower portion of bone might be continuous with the same axis of the upper fragment. The patient was at the same time given opiates, and brandy and soda-water at intervals. On the fifth day, the pulse being weak, and the tongue presenting a red and dry streak in the centre, Mr. Gay ordered wine and porter. Nausea and sickness followed; these symptoms were combated by opium, creasote, and hydrocyanic acid, and ultimately overcome by ice and soda-water. The wound suppurated kindly, but an accumulation of matter took place at the posterior part of the thigh, and Mr. Gay found it necessary to make an opening at the most depending part. From this time the wound made in the operation began to heal, but a thin discharge continued to issue from the incision which had given exit to the accumulated matter. About six weeks after the operation the patient began to complain of pain in the inner side of the thigh, (the principal wound being situated externally,) just below the groin. Matter collected here; it was let out, and the opening thus made was found to communicate with the pus-secreting tissues around the fractured bones.

The wounds continued discharging abundantly, but the patient's health did not appear to suffer more than might have been expected. He had every form of nourishment allowed him; he took largely of bark and the mineral acids, and the limb was steadily kept in the above-mentioned position for nine weeks, the patient himself being most submissive and calm in the endurance of his sufferings. At the end of that period the limb was examined, and very little, if any, attempt at union was discovered to have been made. The patient's health now began to show more serious indications of disorder than had hitherto been manifested. Cough, with expectoration and profuse perspiration came on, and the upper part of the chest on the right side was pronounced to be more dull on percussion than the opposite. It was very clear that all hopes of reunion were now to be given up, and the only chance of saving life lay in amputation. To this proposal the poor man assented, and the operation was performed on October 4th, about ten weeks after the resection of the bones.

When the patient was brought into the operating theatre, his pulse was 112, and his general strength, although at a low ebb, was not such, to all appearance, as to render the operation itself more than usually hazardous. Chloroform was carefully administered, and Mr. Gay removed the thigh in a short time, and with the loss of less than six ounces of blood. Whilst the vessels were being secured, the patient recovered from the effects of the chloroform, complained of pain, and drank some brandy. Dr. Heale, who was watching the pulse at this moment, declared the heart's action to be in a very enfeebled state, and in a few minutes the poor man expired.

The post-mortem examination took place about twenty-five hours afterwards. The body was found pale, and the rigor mortis well marked. There were large quantities of fat beneath the skin in all parts of the frame, excepting the affected limb. The left lung was collapsed, and adhesions existed between the pleural surfaces superiorly and posteriorly. The right lung was studded with grey tubercules towards the apex, and the engorgement of the organ was considerable, the whole of the upper part of this lung being adherent posteriorly by pleuritic bands to the walls of the chest. The heart was small, pale, and empty; the liver likewise pale and exsanguine; the mesentery loaded with fat; and the kidneys healthy, and embedded in adipose matter. On opening the thigh, the two ends of the broken bones were found apart from each other; they had each been rounded off by the shedding of a ring of bone, which included the edge, and had become necrosed, and partly by the growth of new bone. Small masses of osseous matter had formed around the extremity of each fragment, but they were by no means of sufficient importance to effect the consolidation of the fracture. The lower fragment was bare for the distance of three inches, but it had retained its vitality, and lay in a cavity filled with pus, furnished by the surrounding muscular and other tissues. The latter were irregular and unhealthy in their appearance, and showed no traces of cicatrization. The vessels were found quite healthy.

Mr. Gay made a few remarks on this very instructive case, and stated that it was evident that the reparative efforts had been unequal to the desired reunion of the bones, though they were placed in a favourable position, and the patient's health was still good. He considered that the same cause which had occasioned the defective and partial union after the accident, had also prevented the knitting of the bones after resection; and he thought that this hypothesis seemed likely, from the fact, that after both attempts at union, a *small quantity* of bony matter was thrown out. Mr. Gay was likewise of opinion, that the scanty supply of blood to the upper fragment, (the nutrient artery entering the lower only,) and the angular position which the same was made to assume, and which changed its relation with the surrounding parts, were much concerned in the unfavourable results of the resection. This idea was much strengthened by the fact that the bony matter thrown out at each attempt at repair was furnished principally by the lower fragment. It should, moreover, be noticed, that the necrosed ring of bone came from the upper fragment; and as an example of the limited powers of this portion of bone, Mr. Gay mentioned a case of amputation of the thigh, high up, now in the hospital; where a similar ring of bone is separating.

In reviewing the various facts connected with this case, it is natural that we should inquire, whether they will influence for the future the rules laid down for the treatment both of defective and non-union. 1st. As to defective union, it is well known that attempts at rectifying the direction of the callus, by extension, the rupture of the same, a section through it, or its complete excision, are the means of treatment advised by authors. Success has followed, in some cases, especially in the practice of M. Guérin, of Paris; but the records of surgery abound with examples where this treatment has failed, and the reasons of the want of success in those cases have never been clearly traced. Yet, as it is physiologically and pathologically possible to obtain union by any of the above-mentioned means, surgeons are certainly justified in having recourse to them,—the more so as the present and other cases prove that such operations are not immediately dangerous to life. 2nd. The most puzzling cases of non-union have happened after the removal of the ends of the fragments, even where Dr. Houston's idea of want of apposition could not hold good, as, for instance, in the humerus, where close approximation is so easily obtained. Whether the seton, first made use of by Physick, in 1802, and applied with some success by Percy and Jobert, has had better results than the resection, could only be shown by statistical tables, which, however, have not yet been drawn up. It would be at the same time interesting to find out where cauterization of the bone, after resection, has acted favourably.

Malformation of the Nose; Tumour separating the Ossa Nasi; Removal.

(Under the care of Mr. WAKLEY.)

In the various malformations which come before the surgeon, arrest of development, and deficiency in the union of the two symmetrical halves of the frame may generally be noticed. Spina bifida, deficiency of the anterior walls of the bladder, cleft sternum, hare-lip, and cleft palate, are common examples of want of union in the middle line. Some of these malformations the surgeon can remedy; but his art has hitherto failed before two of these—viz., spina bifida and deficient bladder. Let us hope that efforts in those directions will at some period be crowned with success. Hare-lip and cleft palate are now-a-days remedied in a very satisfactory manner, and excellent results have been obtained even when the palate processes of the superior maxillary bones were widely separated. But the nasal organ is likewise liable to malformation. Both the nasal bones, according to Meckel, not unfrequently unite in their whole length, or only at their upper part, which circumstance deserves notice, as offering an analogy with the formation of several simiæ; and the same author has also noticed, that when the nose is not completely developed, the vomer is sometimes deficient, or is perforated by an opening.

A nasal malformation belonging to this class was some time ago brought before Mr. Wakley for rectification. The subject was a child three years of age, who was born with a considerable tumour, situated between, and attached to, the nasal bones, and projecting between the eyes. The size of the tumour, when first examined, was about that of a large walnut: it had been smaller at birth, but had increased with the child's growth, and produced a very extraordinary appearance. The little patient's mother had been induced to apply to Mr. Wakley, first because the tumour looked very unsightly; and secondly, on account of a certain difficulty of breathing, to which the growth seemed to give rise.

Mr. Wakley carefully examined the tumour, being especially anxious to ascertain its deep connexions, as its situation in the vicinity of the ethmoid bone and the frontal sinuses made such an investigation of great importance. It could not be fully ascertained how far the abnormal growth reached, but it was moveable; pressure caused no cerebral distress or symptom whatever; the outline of the surrounding bones could be readily made out; and as it might justly be surmised that the tumour would eventually increase to an inconvenient size, and materially interfere, not only with the child's appearance, but also with the cerebral functions, Mr. Wakley, after having consulted with his colleagues, thought it right to accede to the mother's wish of having the unsightly growth removed.

Though operations of this class do not involve the risk of life, they are of great importance to the patients for whom the result of a Taliacotian operation, or one for hare-lip or cleft palate, is of paramount interest. This decorative surgery, as we have heard Mr. Wakley call this branch of the surgical art, is making rapid strides, and we shall soon have an opportunity of reporting very successful and carefully-performed operations of this kind, which we have of late witnessed in the London hospitals.

In the present instance, Mr. Wakley, assisted by Mr. Gay, and by Mr. Robertson, the house-surgeon, proceeded to operate on the 12th of June last. It was of course desirable, both for the surgeon and the patient, that complete anæsthesia should be produced; the child was therefore placed under the influence of chloroform as completely as appeared safe, as from the nature of the operation it was deemed impossible that the administration of the anæsthetic agent could be continued. Mr. Wakley carried his incision from the inner canthus of the left eye to the junction of the ala nasi with the lip on the same side, and the skin was carefully dissected towards the opposite part of the face. The tumour, being now fully exposed, was found to be pretty firm and adherent, and the dissection was cautiously carried round it. Mr. Wakley separated the tumour from the nasal bones, which were so disjointed by the abnormal growth that they were almost flattened against the sides of the face. The scalpel was now carried deeper, and the root of the tumour was found attached to the perpendicular lamella of the ethmoid bone; this connexion was carefully divided, and the tumour removed without any of the surrounding parts having suffered. The hæmorrhage was somewhat considerable, and arrested with some difficulty, and in examining the parts, it was ascertained that the vomer and cartilaginous septum were absent.

Mr. Wakley considered that these two structures had experienced an arrest of development, producing a kind of shrinking and consolidation which had given rise to the formation of the tumour. The situation and connexion of the latter were certainly calculated to favour such a supposition. The nasal bones were now, as far as practicable, placed in apposition, and the integuments being carefully brought over them, and adapted by several fine sutures, the whole was kept in position by pads and bandages.

The case progressed very favourably with the exception of two attacks of hæmorrhage; the little boy was soon found to present a pretty regular nose, rather more prominent than is the case at his age, and its cavity undivided by any partition whatever. Whether it will be advisable to make an artificial septum some years hence, can hardly be determined yet; it is, in the meanwhile, to be hoped that the nasal bones will reach their full development, so as to afford the organ proper support. The tumour, upon minute examination, was found to consist of a fibro-cellular structure, bony deposit having probably been prevented by the shrinking and consolidation of the mass.

Rupture of the Ligamentum Patellæ.

(Under the care of Mr. Gay.)

Rupture of a tendon is an accident of common occurrence, especially as regards the tendo-Achillis; the rupture mostly arising, as is well known, from sudden and powerful muscular action. The tendon of the rectus femoris is likewise liable to be ruptured by the same cause either above or below the patella, but such an accident is rare compared with the rupture of the tendo-Achillis. Nélaton states that when the tendon of the triceps cruris is ruptured above the patella, the solution of continuity mostly takes place about an inch above that bone; but when it happens lower down, and immediately above the patella, the accident may implicate the synovial membrane of the joint. The same author mentions a case where the latter kind of rupture took place, but no inflammation of the joint came on; the patient died of cerebral apoplexy one year after the accident, and his surgeon, Mr. Martini, found that the ligamentous tissue which connected the two ends of the tendon had penetrated into the joint. It would seem that this accident is of a much more serious nature than the rupture of the tendo-Achillis, since it appears, from a certain number of cases, collected by M. Demarquay, that the duration of the treatment when the tendon of the rectus is ruptured above the patella, varies from forty-five to sixty days, and that about half the patients remain lame for the rest of life.

But a still more rare rupture of tendon is that of the ligamentum patellæ or tendon of insertion of the extensor cruris. Boyer considered that the rupture generally takes place midway between the inferior edge of the patella and the insertion of the tendon, or that the superior or inferior extremity of the tendon may be torn from the bone. Some authors, however, believe that the osseous texture is more likely to give way, and that a portion of bone is in fact torn off by the tendon. Of course violent muscular action is usually the immediate cause of the accident; it will be seen by the following case which is the position of the limb most favourable to the rupture. For the details of the same we are indebted to Mr. J. Carr Jackson, late house-surgeon to the hospital.

W. C——, aged forty-eight, and a carpenter by trade, was admitted, under the care of Mr. Gay, August 20, 1850, complaining of an affection of the knee-joint, resulting from a violent muscular effort made some time previously, which affection had prevented all use of the limb since the time of the accident. The patient stated that he had had rheumatic gout, at various intervals, for many years. About five weeks previous to his admission, he had been suffering from his complaint; and on returning home, under the influence of free libations, he was suddenly seized with an excruciating pain in the right knee; and being on the point of falling, he made a violent muscular effort to save himself. At this moment he felt something snap in the knee, and fell. Sickness and fainting came on, and he could not regain his feet; the limb swelled, the patient was carried home, and from that period to the day of admission he had not left his bed.

It is extremely likely, that in ruptures of tendons from muscular effort, and even in some fractures, certain alterations of texture may have had their share in the accident, the violence of the effort being of course the exciting, and the pathological change the predisposing cause. It might, for instance, be inquired, whether in this case the rheumatic diathesis had not had some influence on the modification of the intimate texture of the ligament. Such alterations are admitted on all hands to occur in the cancerous diathesis, malacosteon, &c. Mr. Gay's patient complained, on his admission, of much pain in the joint; he was pale, weak, and irritable; and evinced, by a profuse salivation, that some mercury which he had taken a short time previously had had a full effect. The femur was much arched outwards—a deformity which had existed long before the accident; the knee was swelled, the normal conformation of the joint effaced, and some effusion existed above the patella. Pressure on the joint gave pain; and beneath the patella a hollow was noticed, which admitted the finger transversely; there was considerable thickening around and below this point, and near the tubercle of the tibia. These appearances suggested the idea of a fracture of the patella, with the fragments drawn asunder; but on examining that bone, its perfect outline could be traced with great facility; it might be moved laterally in various directions, and even slightly upwards. No crepitation could be discovered, and the firm, rounded, tense ligament, very distinct on the sound limb, was not felt below the affected knee. Mr. Gay, taking all these symptoms into consideration, formed the opinion that the ligamentum patellæ, or rather the tendon of insertion of the rectus muscle, had given way at the moment of making the violent muscular effort.

This diagnosis was supported by a case of a somewhat similar character, which had been observed by Mr. Jackson. The patient had been seen soon after the accident, and presented all the characteristics of the injury. He had, namely, missed his step during a dark night, and was propelled suddenly forward; in his attempt to regain his equilibrium, he had violently strained his knee while falling. At first sight, the case looked like one of fractured patella, the upper and lower fragment, and an intervening space, being so well marked; but these appearances, on a careful examination, were found to be below the patella, which bone was found moveable and free, the changes below the same being the consequence of effusion around and below the *ruptured* portion of ligament. Both this case and Mr. Gay's patient were treated as for fractured patella, and both recovered with some deformity, the result of considerable thickening around the joint, and they experienced impeded motion and weakness of the limb for a considerable period.

Cases of ruptured tendon like those above mentioned may be confounded with fractured patella, and though the treatment does not differ much, still it is proper that the exact nature of the lesion should be ascertained. The outline of the patella being well defined, the absence of crepitation, the mobility of the bone in various directions, the hollow below it, and want of form and resistance in the ligament, will be sufficient signs that the solution of continuity has taken place, not in the patella, but in its ligament. Boyer even states, that when this rupture has taken place, and the leg is extended, the integuments may be pressed down transversely into the groove which separates the condyles of the femur from the tibia, and the crest between the articulating surfaces of tibia be felt by the finger.

Sequelæ of Scarlatina connected with Anæmia.

(Under the care of Mr. Weeden Cooke.)

It is a fact worthy of remark, and one which must have frequently occurred to the minds of practitioners who are called upon to prescribe for the young, that it is more often the secondary anæmic effects of a primary disease which destroy the little patient, than the original fever or inflammation to which it has been subjected. The primary diseases, rubeola, scarlatina, pertussis, bronchitis, and pneumonia, destroy, undoubtedly, a large number of children, indeed a very much larger proportion than would perish were the purely medical aids of our art assisted by those hygienic measures of cleanliness and pure air and light which are such necessary conditions for restoring as well as preserving health. Should peace and prosperity continue to afford our legislators time for the moral and physical improvements which characterize the age, we may hope that these diseases of childhood, which have for so long been considered *necessary* occurrences, will be, if not conquered altogether, at least rendered so harmless, that death from them shall be the exception, rather than, as now, almost the rule.

Medical men are doing their part in this social amelioration, and already do we begin to see, in the registrars' reports, the results of increased attention to the diseases of infancy. It is, perhaps, almost too early to claim the great decrease in deaths under fifteen years as a *propter hoc*, but at least it gives hope and encouragement, and sweetens labour.

We have travelled from the subject of our present report, which is that of the sequelæ, or secondary results of the exanthems. Amongst Mr. Weeden Cooke's little patients at the Royal Free Hospital, it is extraordinary to witness the Protean forms of disease which result from, or are developed by, an attack of scarlatina or measles. Taking the head only, at least four or five different affections present themselves; porriginous eruptions on the scalp, attended by enlargement of the glandulæ concatenatæ of the neck; purulent discharges from the auditory passages, with or without partial deafness; corneitis, with, perhaps, ulceration, and muco-purulent discharge, of an offensive character, from the nares, arising from ulceration of the Schneiderian membrane; indolent ulcers behind the ears, at the angles of the mouth, and alæ nasi; ulceration of the vulva, and cerebral irritation. Other parts of the frame suffer from the exhausting effects of the primary disease; but interesting and important as it is, thus to class together different forms of disease owing their development to one cause, our space warns us to confine ourselves at present to the illustration of one or two of these affections of the head.

James B——, aged two years and a half, came under the care of Mr. Cooke on the 27th of August. He was strong and well until four months previously, when he had scarlet fever, since which he has been weakly, thin, and pale. Two months ago the mother noticed that he became deaf, acquired a vacant look, and put his hand to the left side of his head, although he did not complain of pain. A day or two elapsed, and then a discharge proceeded from the left ear, which has continued ever since. He is now very anæmic in his appearance, and the deafness and discharge from the ear remain. Ordered a nourishing diet, with meat once a day, and milk twice. The shower-bath every morning, cold, if he can bear it; if not, slightly heated. Six grains of the sesquioxide of iron, in treacle, three times a day; and an injection for the ear, composed of sulphate of zinc, one scruple; water, four ounces,—the meatus being syringed with soapy water previous to the injection of the lotion.

The iron was gradually increased, until he took ten grains, three times a day. The discharge ceased in a week, the hearing gradually returned, and in about one month he had become a healthy-looking boy, apparently free from all disease.

Mr. Cooke states that many of these cases of ottorhœa are not so easily managed; that the ulceration extends to, and cuts through, the tympanum, if astringents and tonics be not administered; and many cases are seen, in which the bony structure of the ear is implicated in the disease, caries of the contiguous portion of the petrous bone sometimes takes place, and abscesses form within the cavity of the skull, either diffused beneath the membranes, or circumscribed within the substance of the brain itself. Such formidable results do indeed warn us not to permit this apparently unimportant but insidious affection to remain unattended to. In the following case, another form is assumed by the anæmic disease, which results from scarlet fever. We give it as shortly as possible:—

Ann R——, aged six years, had suffered from scarlatina, three months before she was brought to the hospital. The glands of the neck had been more or less swelled since; there was a listlessness, and general indisposition to use any exertion, either to play or to eat. By degrees, she became drowsy; and, on the day previous to her being seen by Mr. Cooke, she had a convulsive fit, which continued for half an hour. When brought to the hospital, Sept. 20, the first thing noticed was a decided frown; the next, a largely-dilated pupil; then a remarkable blueness and prominence of the veins of the scalp. The head was hot, and drooped into the mother's lap; during sleep, it was rolled from side to side, and the eyelids were only partially closed. There was a dry skin, an inactive liver,—the dejections being of a light clay colour and consistence; the tongue was coated with a dirty white fur, and the pulse languid and small; the countenance was indicative of distress, and the whole surface of the body pale and exsanguined. Two four-grain doses of mercury with chalk restored the biliary secretion; tepid baths, with friction, assisted in renewing the action of the skin, whilst the cerebral symptoms were combated by means of the iodide of potassium, at first in doses of one grain, in infusion of calumba three times a day; and subsequently, in a grain and a half and two-grain doses, until the fourth day, when the coryza, which should always be produced by this remedy, set in. The cerebral symptoms at once began to ameliorate; the iodine was then diminished gradually, and desisted from on the seventh day. The pupil had recovered its natural size, the frown was gone, and the cheerfulness of the child had returned. The chlorate of potash, in doses of eight grains, three times a day, was now ordered; and, three days afterwards, ten grains, combined with twenty minims of tincture of bark, and a few drops of hydrochloric acid. The child progressed very favorably under this for ten days; and, all head symptoms having now disappeared, the sesquioxide of iron was prescribed, in ten-grain doses, three times a day, to be continued for a fortnight. When she returned, at the end of that period, nearly all traces of the anæmia had passed away, and she was enjoying her life fully. The iron, however, was repeated for another fortnight, at the close of which she was discharged quite well.

This case illustrates the propriety of treating the cerebral diseases of children, as for the most part arising from deficient power. Authority is certainly on the other side, but when we look at the statistics of the fatal diseases of childhood, we feel bound not to yield too implicitly to its guidance. We would especially draw attention to the value of the salts of iodine and chlorine in these affections. The chlorate of potash contains likewise a large proportion of oxygen, which renders it most desirable both as a febrifuge in asthenic fevers, and as a tonic: it must, however, be given, as Mr. Cooke says, in much larger doses than we have been accustomed to employ.

Contused and Lacerated Wound of the Thigh; Injury to the Femoral Vein; Death; Autopsy.

(Under the care of Mr. Gay.)

Whether extravasated blood is likely after coagulation to become organized, has been for some time a very interesting and warmly debated question. Hunter's opinion on the subject is well known, as that great surgeon gave himself a large amount of trouble to prove that such organization does take place. It is, however, now admitted on all hands, that a clot of blood does not undergo the transformation which has been described, but is either absorbed or discharged in the form of pus or detritus, or wholly unchanged. The case which we have this day to report will illustrate this fact in an admirable manner; it will likewise afford additional data connected with the wounds of large venous trunks. The particulars were noted by Mr. Lane, house-surgeon, *pro tem.*, to the hospital.

James R——, twenty-one years of age, a robust man, of good health, light complexion, and an unirritative temperament, was admitted Sep. 16, 1850, under the care of Mr. Gay. The patient, who is an excavator on the Great Northern Railroad, had suffered a fracture of the fibula, with outward displacement of the foot, and an extensive laceration of the soft parts, including a wound eight inches in length, and considerable depth, across the right groin, this wound exposing the spermatic cord. There was likewise much bruising of the thigh and perinæum on the same side. The patient, though much depressed, was free from pain, and stated that whilst working on a cutting, with earth at a considerable height above him, portions of the mass gave way; he turned quickly round, but some of it struck his calves and back, and brought him to the ground flat upon his face.

The edges of the laceration in the groin, which extended from the anterior superior spine of the ilium to the body of the pubis, were straight and clean; and the testicle of the same side (left) was drawn upwards out of its place. The wound was accurately closed by fine sutures, and Mr. Gay ordered cold applications, as there was slight oozing of blood. On the next day, some of the stitches had to be removed from the most depending part, to give exit to the bloody serum which had accumulated, the cold being continued. On the fourth day the wound gaped; it had continued uninterruptedly to pour out serum mixed with blood, and, on slight pressure being made above it, unhealthy and dark-looking tissue with clots of blood escaped. These circumstances evidently pointed to the lesion of some venous trunk in the vicinity of the injured parts, the more so, as there was great enlargement of the thigh. An erysipelatous blush now made its appearance; it extended in the direction of the crest of the ilium; and, as a discharge of some kind was felt, and seen to collect on the internal portion of the thigh, Mr. Gay made a counter opening on the lowermost part of the swelling, and the limb was wrapped in a large linseed poultice.

The patient had had his bowels previously attended to, and was now put on small doses of mercury and effervescent draughts. On the fifth day the tongue became dry and coated with a white fur; the gaping wound continued to discharge shreds of cellular tissue and *clotted blood.* On the sixth day slight delirium came on, and a deep incision was made in an abscess which had formed on the internal part of the thigh; this gave exit to purulent matter, sloughy shreds, and broken-down clots. The patient began to be bathed in perspiration. He was ordered bark and ammonia, beef-tea, porter, and brandy occasionally. On the eighth day the patient was very delirious; no pus was secreted from the wound, but a peculiar cadaveric halitus arose from it, the fundus being filled with black fœtid blood. Violent delirium, alternating with coma, came on, and the patient sank, nine days after admission.

The peculiar secretion from the wound in the groin, and this rapid termination of the case, gave the post-mortem examination more than usual interest. There was ecchymosis around the right ankle, which had been the seat of the fracture; the lungs were healthy, but the left pleura contained a pint of turbid serum, the right cavity being healthy. The right auricle and the venous system generally were distended; the left auricle and ventricle contained black blood, and the different valves were healthy. The clot drawn out of the pulmonary artery showed a cast of its branches. On reflecting the skin from the lower part of the abdomen, extravasated blood was found, and extended from above the wound in the groin up to the ribs, the skin and subcutaneous cellular tissue being stripped from the muscles on the anterior and inner part of the thigh. Large quantities of extravasated blood of dark colour, and mixed with pus, lay between the muscular fibres, and the fascia in those parts was in shreds. The vena saphena interna was torn away from its connexion with the femoral vein, near their junction. The coats of the saphena were thick, and when the vessel was cut across it remained patulous. The lacerations of the saphena vein were enveloped in firm coagula, continuous with a plug in the femoral vein, and firm, unadherent clots were found in the iliac and tributary veins. The cellular tissue of the popliteal space and calf were loaded with turbid serum, which ran out freely on incisions being made.

Mr. Gay, in making a few remarks on this case, stated that the wounds of the saphena and femoral veins, at their junction, had given rise to a serious amount of hæmorrhage, and that it appeared to him that the loss of blood, together with the severe laceration of the deep parts about the lower portion of the abdomen, groin, and thigh, had been the principal cause of the patient's death. A considerable quantity of blood had been effused in every part of the thigh beneath and about the fascia lata, and Mr. Gay thought that the communication of this blood with the atmosphere had been the cause of the secretion of serum, the breaking down of the clots, the discharge, the erysipelas, and the fatal symptoms which followed. This case, according to Mr. Gay, showed the difference noticed by Mr. Hunter between the condition of the effusions of blood which communicate by wound with the atmosphere, and those which do not. A considerable quantity of blood had escaped beneath the integuments and around the bone on the site of the fracture in the leg, but this fluid was *in no respect changed* from the condition in which, to all appearance, it was soon after its effusion. It was simply clotted, firm, shining, and of the colour of muscular tissue, closely adherent to the textures in which it was found. Not so with the blood around the lacerated thigh, for this was broken up into masses mixed with serum and pus; in some parts it had become fœtid. Mr. Gay added that he had made incisions in different portions of the thigh to allow the escape of the heterogeneous and offensive substances, but that they came away but tardily, and the patient had sunk. Mr. Gay had examined the wound of the femoral vein with much interest, and had found that wound surrounded by a clot, which communicated with another piece of coagulum, of a circular form, which filled up the vein on the distal side for several inches. The portions of clot around the wound were adherent only to the vein from having become entangled by the lacerated edge. No inflammation had taken place in any part of the vein, nor was any attempt at closure observable. The coats of the vessel were smooth and shining in every part, and the blood-stains which were found were easily washed out. The artery immediately in contact with the wounded vein appeared slightly inflamed.

WESTMINSTER OPHTHALMIC HOSPITAL.

Encephaloid Tumour round the Femur; Amputation.

(Under the care of Mr. C. Gardiner Guthrie.)

Notwithstanding the labours of Laennec, Cruveilhier, Müller, Warren, Carswell, &c., malignant diseases still offer a wide field for inquiry. We have, however, made rapid strides of late, and the classification of malignant growths, founded upon well-defined characters, has assumed an amount of distinctness which is of great assistance in practice. If we are not greatly mistaken, three types of cancerous growths have now taken a prominent and very clear position—viz., schirrus, encephaloid disease, and colloid growths. The latter is so rare, that it hardly need arrest attention, and the mind of the student, and even practitioner, feels at ease, the diagnosis being thus assisted by a definite idea of certain well-recognised types. It matters not whether we call these types scirrhoma and cephaloma, after Dr. Carswell, or whether we retain the above names, which seem to be the most current among surgeons.

Difficulties may be thrown in the way when we attempt to recognise either of these types, either from the locality in which they may have sprung up, or from their resemblance with growths acknowledged as non-malignant. Thus it may happen (confining our attention to encephaloid disease) that this affection may be confounded, when in a softened state, with chronic abscess, serous or hydatid cysts, fatty tumours, or the hypertrophy of certain glandular organs, as the mamma or the thyroid body. A due amount of care will, in general, surmount the obstacles which lie in the way of a correct differential diagnosis.

When once the malignancy of a tumour has been made out, it will be ascertained, without much difficulty, whether the growth belong either to the first or second type; but another question, the solution of which has an immense influence on the treatment, is to determine whether the patient is to be operated on at all; and, when surgical interference is resolved upon, to make a choice between the ligature, caustic, extirpation, or amputation And even when the latter operation is fixed upon, the surgeon has still to decide whether he will, supposing a tumour of a malignant kind to have involved a limb, amputate in the shaft of certain bones, or take off the limb at the joint above.

These considerations came very forcibly before us when witnessing an operation lately performed by Mr. Chas. Guthrie, at the Westminster Ophthalmic Hospital, his patient being affected with an encephaloid tumour of the thigh. The case created very great interest, both on account of the doubt which existed regarding the extent of the disease, and the numerous surgical authorities who were called upon to give their opinion as to amputation or disarticulation. But the very interesting nature of the case will appear by the outline, which we proceed to give.

The patient is a young man, twenty-four years of age, of a decidedly strumous diathesis, who was admitted under the care of Mr. Charles Guthrie, on November 11th, 1850. About eighteen months ago he was attacked with a pain in the thigh, which, to him and to others, seemed of a rheumatic character. This affection was variously treated, with no benefit, when about six months ago a swelling was noticed at the posterior part of the thigh, about the situation of the commencement of the linea aspera. This tumour increased rather slowly at first, but about six weeks previous to admission, it began to gain rapidly in size.

We cannot here help remarking the fact of the growth having in this case sprung up without any external violence. This circumstance is an additional proof, if any more were necessary, that the falls, blows, &c., which generally are said by patients to have given rise to malignant tumours, are but slight exciting causes which have acted on parts already fully predisposed. Had this patient met with a fall on the part which eventually became spontaneously affected, the tumour would probably have made its appearance soon after the fall.

On admission, the growth was found to have surrounded the upper part of the femur; it had attained the dimension of a man's head, and yielded to the hand the sensation of a soft pulpy substance. The skin was of a purplish hue in front, somewhat stretched over the tumour, and permeated with large veins; the patient complained of a constant aching pain in the part, and seemed to have suffered materially in his health. Mr. Guthrie examined the tumour carefully, and pronounced it an encephaloid growth; it could not, however, be ascertained whether the diseased mass sprang from the bone itself, or from the surrounding parts, or to what extent the former might be involved. As to the nature of the affection there could hardly be any doubt; its rapid growth, the age of the patient, his deteriorated health, the form and feel of the tumour, &c., all clearly pointed to an encephaloid affection. But two questions arose immediately from this diagnosis,—Is it proper to amputate? and, Where is the operation to be performed?

First, as to the propriety of removing the disease. It was certainly one of those cases where such a measure might be attempted with a very fair prospect of freeing the system altogether from the malignant influence, as the disease was of very short standing, the patient, though weak, not affected with any visceral complaint, and the cancerous affection not hereditary in the family. It could not be discovered that the lymphatics or glands had been much contaminated by the disease, and the case might altogether be looked upon as one favourable to operation. It is, of course, the probable reappearance of the affection, either in some of the viscera or in the stump, which renders the surgeon cautious in advising operations. It is not quite proved, as yet, that encephaloid growths are principally to be attributed to an alteration of the blood, though the recurrence of the disease goes far to support this opinion. Yet, as the affection has in some cases not reappeared after the removal of the primary local manifestation, it may be inferred, that at some particular period the malady is quite local. And even supposing the blood contaminated with cancerous matter, it is difficult to understand (as has been very properly objected) that particles of cancerous matter carried into an organ by the blood, should there have the power of increasing and multiplying.

Mr. Guthrie having considered this as a fit case for the removal of the limb, the next question was, whether the femur should be amputated near the lesser trochanter, or removed at the hip-joint. This problem was not easy of solution, as certain elements were wanting to solve it, for it could not be ascertained whether the encephaloid growth sprung from the bone or not; and supposing it had originated from the femur, it remained to be found out whether the disease extended sufficiently high up to warrant amputation at the coxofemoral articulation.

If we look into Mr. Stanly's work on "Diseases of the Bones," we find the following passage bearing upon this point: "Still the ascertained fact of the encephaloid tumour being occasionally combined with unsoundness of the bone to an indefinite extent, is sufficient to warrant the rule, that in such cases the amputation should, if possible, be performed, not through the bone in which the disease originated, but either through the contiguous joint or above it." The advice contained in this quotation is sufficiently distinct, and Mr. Guthrie was fully inclined to follow it; but Messrs. Arnott, B. Cooper, Guthrie senior, Stanley, B. Phillips, Travers, Tatum, H. C. Johnson, Hancock, and Avery, having been consulted on the subject, it was agreed that the limb should be taken off at the lesser trochanter; that Mr. Stanley should examine the tumour and bone immediately, and if the latter were found involved, the disarticulation should at once take place, but that the hip-joint was not to be disturbed if the bone were sound.

And here we may be allowed to recall to the memory of our readers an extremely instructive case, some time ago, under the care of Mr. Prescott Hewett, at St. George's Hospital. Here the disease occurred in a comparatively short time, in the stump, after the femur had been amputated high up; but the encephaloid tumour was of the periosteal kind, and therefore identified, as it were, with the osseous tissue. This was not the case with Mr. Guthrie's patient, as will be seen by the sequel; the amputation has taken place in both cases, at about the same situation, but the origin of the tumours is not exactly the same.

Mr. Guthrie proceeded to remove the thigh as high as the lesser trochanter, assisted by Messrs. Hancock, Holt, Canton, &c., the patient being rendered insensible by the inhalations of chloroform, which acted very rapidly upon him. Mr. Echlin being desired to compress the femoral artery close to Poupart's ligament, Mr. Guthrie commenced his first incision from the external side of the artery, very near the above-named ligament, and carried it round across the glutæus to a point situated above the tuber ischii, the knife being made to divide the skin and subcutaneous cellular tissue. The second incision run round the inner side of the thigh, beginning on the internal side, and somewhat over the artery, and was carried below the pubis, to meet posteriorly the termination of the first. The muscles were then dissected upwards and inwards from the great trochanter, so far as to form the outer flap, the operator being thus able to feel the denuded lesser trochanter with his finger, this being one of the guiding points sought for. The knife was then carried on the inner side of the bone, from without inwards, and made to divide at one sweep the vessels and muscles down to the lesser trochanter. The bone was now fairly exposed, and the saw being applied somewhat obliquely from the greater to the lesser trochanter, the limb was thus completely severed from the trunk.

Mr. Stanley and Mr. Quekett immediately proceeded to examine the parts whilst the arteries were being secured, and after a careful dissection they came to the conclusion that the bone and medullary canal was perfectly sound; the flaps were therefore brought together without any further removal of the parts. The patient, as we stated above, had been narcotized by chloroform, and remained in a deep sleep whilst so important a portion of his frame was being removed; but he did not recover his faculties as quickly as is usual in similar cases; he remained, in fact, in a sort of swoon, from which he rallied about an hour after the operation, all proper means being taken for reviving him. It should be noticed that the room was extremely crowded, and that the patient, in his very weak state, probably inhaled a large proportion of carbonic acid along with the chloroform, and was, moreover, under the depressing influence of a heated atmosphere. He was roused, however, soon after the room was completely cleared. The patient has progressed very favourably up to this date, and we sincerely hope that he may remain free from any further inroads of the malady for which he was operated on.

Mr. Quekett, having had the parts removed to the College of Surgeons, examined them again with great care, and kindly communicated to us the following particulars regarding the pathological appearances of the tumour. Both by the naked eye and the microscope the bone was found quite healthy, and some yellow specks seen on the day of the operation in the medullary canal, and supposed to be composed of pus, were discovered to consist principally of fat. The tumour evidently did not spring from the bone, but had clearly arisen between the muscles of the thigh, and lay around the femur. (Dr. Carswell says that malignant disease may begin as a molecular deposit in the tissues affected, from a derangement of their nutrition. We would add, that in a case like the present, such an hypothesis comes very near the truth, as there is no hereditary taint in the family.) The growth is of the common medullary or encephaloid kind, composed of nucleated cells, with no fibrous tissues connecting them together. The external aspect of the tumour is nodulated, and covered with a thin pellicle. On a section being made, the central part was found soft and pulpy, and studded with white spots, composed chiefly of earthy matter, which bore much resemblance to the cysts of the trichina spiralis. By a transverse section it was shown that the muscles invested the tumour; but at one part of the growth it was noticed that the latter was gradually burrowing down to the sciatic nerve. One large nodule looked very vascular, and being cut through, showed a great congeries of vessels.

[It may be here noticed, that some French pathologists, among whom is P. Bernard, are disposed to think that the encephaloid tissue is deprived of veins; whilst Laennec thought that these growths possessed a complete system of circulation. If the former opinion is eventually found the true one, the circumstance will have a material influence on the question of the recurrence of cancerous growths.] Sections of the bone were made in various points, but the osseous texture was everywhere found perfectly sound, the compact portion appearing to the naked eye particularly firm. The circumference of the tumour, divested of all appendages, was about seventeen-inches, and its weight four pounds.

In reviewing the characters above enumerated, it would appear that this tumour may be classed among the non-encysted variety of Laennec. This author says, after describing the peculiarities just mentioned: "The non-encysted encephaloid tumour may be found in all parts of the body, especially in the lax cellular tissue so abundant in the limbs or the great cavities; they are found most often in the arm, *the thigh*, and the neck. Mr. Stanley mentions an example of a tumour of this kind originating in the cellular tissue. He says: ..... " to this I know but a single exception, in the instance of an encephaloid tumour filling the ham, and then advancing upon the sides of the knee; for here the disease appeared to have originated in the cellular tissue of the popliteal space; certainly it had no connexion with the adjacent bones, which were sound."

As the operation has been performed early, and the whole of the diseased parts removed, we may reasonably harbour the hope, that no recurrence will take place, and we shall conclude with quoting from Nelaton's "Pathologie Chirurgicale," the following passage, which bears mainly upon the question of recurrence:—"Encephaloid substance is, according to Lobstein, composed of albumen and gelatine; treated with boiling water it yields a dull fluid, which, being evaporated, leaves a residue of gelatine and phosphate of lime. Boiling alcohol separates the gelatine, and the matter which is then left, and which has resisted the action of boiling water and alcohol, resembles fibrine or gluten; this residue is made to swell up considerably by the addition of acetic acid. This last substance, according to Gluge, is composed of spherical globules, the smallest of which are larger than the pus globules; they are found not only in the diseased tissues, *but likewise in the neighbouring parts.*" This latter remark, if proved to be true by further experiments, would have a great importance in practice: for it would explain the frequent recurrence of encephaloid disease, and would show the necessity of taking off, with the tumour, all the layers of the second tissues in which these germs, as it were, of the cancerous affection, are contained.

KING'S COLLEGE HOSPITAL.

The Treatment of Nævi by Compression, or Strangulation by a peculiar Knot.—Cutaneous cancer of the Hand; Amputation.

(Under the care of Mr. Fergusson.)

We have had repeated opportunities of seeing Mr. Fergusson operate for the strangulation or obliteration of nævi. His patients were principally children, between one and three years of age, with those abnormal growths more or less developed. When Mr. Fergusson wishes to destroy the tumour by strangulation, he does not follow the usual method of transfixing the nævus with two pins at right angles with each other, and twisting strong silk around them, but we have seen him proceed in several cases, and, amongst others, in a very recent one, in the following manner:—

He armed a common curved surgical needle with a strong thread, about eighteen inches long, and passed the needle (the thread being double) through the base of the tumour. One of the threads, about two inches from the eye of the needle, was then cut across, and Mr. Fergusson introduced one of the loose ends, lying on the other side of the tumour and corresponding with the cut thread, into the eye of the needle, which latter then carried two loops. (The end to be chosen is the one continuous with the thread first cut.) The needle was now carried at right angles to the direction it took at first, and when it was disengaged from the threads, the latter presented around the tumour *two loops* and *four ends.* Mr. Fergusson now pulled the threads gently, so as to ascertain their relations, and he then made two tight knots with the four loose ends. Thus the tumour was effectually strangulated, being surrounded, not only with two knots, but with four firm *loops.*

In a case lately operated on, and where the nævus was situated on the neck, and about the size of a walnut, though not so thick, the loss of blood was very trifling, and occasioned by slight incisions into the tumour, which latter, in about three weeks, had completely fallen off, and left but a slight scar. Liston was in the habit of passing a double thread through the base of the nævus, and obtained four ends by dividing the loop; the strangulation was then effected by four knots. Mr. Fergusson, by his improved method, so encircles the tumour, that when the two knots are tied, the mass is divided into four sections, and the nævus is thereby more evenly and effectually strangulated.

The treatment of nævi would, however, appear to require various modifications, according to the size of the growth, and the locality where it has sprung up. We saw, for instance, a few weeks ago, a child under Mr. Fergusson's care, in whom the vascular tumour occupied the right cheek. Here it was desirable to obtain obliteration without much loss of blood, or an unsightly cicatrix; and Mr. Fergusson determined on trying the effects of firm and permanent compression. He proceeded in the following manner:—

Two strong pins were first thrust through the base of the tumour (which was about the size of a crown piece) from below upwards, at about one inch distant from one another; and two others were passed transversely, being separated by the same space as the first. Mr. Fergusson then rolled a narrow strip of lint, into the shape of a thick string, and applied it firmly round the circumference of the swelling, and under the pins. This constriction having thus steadied the tumour, a circular pledget of lint, about a quarter of an inch thick, was then placed upon the nævus, and secured in that situation by strong silk threads, which Mr. Fergusson wound round the pins, and carried across the pledget. The latter, by these means, exercised a powerful pressure upon the growth, which was expected to be sufficient to cause the complete atrophy of the latter. Nor was Mr. Fergusson deceived in his expectations. Some weeks afterwards, when the needles had been withdrawn, and some ulceration which had taken place at the orifices, had cicatrized, the tumour seemed all but obliterated.

Mr. Fergusson, in making some remarks on the case, stated that, in the manner just described, pressure of a very effectual kind might be applied to any part of the body with a great amount of certainty. He had refrained from any active measures regarding this nævus, whilst the child was very young, but as the little patient was now growing rapidly, it was advisable to arrest the progress of the vascular tumour. He had now used this peculiar method of applying pressure in many cases, for the last fifteen years or more, and had reason to be satisfied with it, though he would add that it was not applicable in all instances. In this case, for example, he was anxious to avoid any division of parts with the knife, as the hæmorrhage would have been considerable; but by the present mode of proceeding no blood was lost. He would in general prefer the tying of such tumours, but the ligature, however well applied, sometimes fails: and this had happened in a large nævus which had very lately been tied in this theatre; it had after some time grown again. In Mr. Fergusson's work on "Operative Surgery," last edition, there is a case of very large tumour treated by this peculiar mode of compression; the operator was Dr. Maclaghlan, of Chelsea Hospital, and it succeeded remarkably well.

Hare-Lip; Direction given to the Knife in the Paring of the Edges.

A FEW weeks ago, Mr. Fergusson had to rectify, upon a child, about one year old, the deformity of hare-lip. The operation was performed in the usual manner, with the exception of the direction given to the knife whilst the margins of the fissures were being pared. As the scalpel run straight from above downwards, Mr. Fergusson made it cut slightly inwards on both sides, when he reached the red portion of the lip, so as to save a little more of that portion than of the part covered by skin. This precaution is likely to remedy a defect which is generally left after the union of parts in hare-lip. Every surgeon has noticed the peculiar notch which the red part of the lip presents after the linear wound above it has completely united; this is more or less the case with various patients, and it must have struck many practitioners that it would be very desirable to obviate this defect, and bring about the complete union of that part of the lip which is immediately continuous with the mucous membrane of the mouth. The angle inwards, with which Mr. Fergusson modified the useful rectilinear paring of the edges, is likely to effect this desideratum, and will tend to lessen very considerably the deformity left after the operation for hare-lip. Mr. Fergusson has been in the habit of modifying the incision in this manner for the last seven years, and was sorry that this method, which he believed was of French origin, was not more followed in this country. This plan was recommended by Professor Miller, of Edinburgh, and, as he (Mr. Fergusson) had learned from a recent conversation with Messrs. Smith & Teale, of Leeds, was followed by some of the surgeons in that town. The child has progressed very favourably, complete union has taken place, and no notch is perceptible on the lip.

CHARING-CROSS HOSPITAL.

Cancer of the Breast; Removal; Death, three years after the operation, from Malignant Disease of the Liver.

(Under the care of Mr. AVERY.)

WE have had frequent opportunity of reporting cases where extirpation of cancerous tumours was resorted to, and have ventured to express the opinion, that the surgeon who gives his patient the enjoyment of a few years exemption from suffering and misery by removing a malignant growth, is to be commended, though the evil hour may be merely put off for a while, and the patient be again seized with the disease. The following cases, one having been under the care of Mr. Avery, the other treated by Mr. Hancock, will exemplify, in a very satisfactory manner, the usual termination of malignant affections, and lend support to the practice of freeing patients from the early manifestations of the disease, although the diathesis cannot be destroyed, and must give rise, in an indefinite period, to cancerous growths, either upon the surface or in some of the viscera.

It appears that the patient applied, about three years ago, to Mr. Avery, with a tumour of the breast. She was then about forty-five years of age, and the tumour had been growing for the last two years. On examination, the abnormal growth, full as large as a fist, contained a thin, firm, membranous capsule, exhibited in its centre a hard, fibrous structure, surrounded by a more elastic, homogeneous, encephaloid mass. The skin was adherent to the tumour in certain parts, and two or three enlarged, and somewhat indurated glands, could be felt in, and were removed from, the axilla. The patient's health had not materially suffered yet; the pain was not very intense, and as favourable prospects might be entertained, Mr. Avery determined on acceding to the patient's wish of having the breast removed. The operation was performed in the usual manner, the wound healed very rapidly, and the patient was discharged (1847) in very good condition. Her health remained satisfactory for the following three years; she stated, however, when re-admitted, that she had had very severe rheumatic pains in the chest and various parts of the body. In the month of July, 1850, she again applied at Charing-cross Hospital for admission, suffering from intense pain in the chest and hip. She was admitted, and, whilst in the house, was seized with epileptic fits, and it is supposed that a fracture of the thigh, which was soon afterwards accidentally discovered, took place during the paroxysm. She gradually sunk under this combination of afflictions.

The post-mortem examination was conducted by Mr. Jessop, house-surgeon to the hospital. No alteration of any importance was found in any part of the frame excepting the liver and cranium. No signs of disease were discovered in the tissues connected with the amputated breast, and the axilla was quite free from any cancerous transformation. The liver was the seat of decided cancerous manifestations, in the shape of tubercles of a scirrhous hardness, with which the organ was studded. These growths varied in size from a nut to a small orange; they were of a light yellowish colour, situated both on the surface and in the substance of the liver, and, as stated above, were remarkably hard. In the middle fossa of the base of the skull, the meninges had become thickened and agglutinated, together with the neighbouring portion of brain, and formed a soft, pultaceous mass, about the size of half a walnut, surrounded by pretty healthy cerebral matter, the bone of the skull itself being sound. The thigh-bone was carefully examined, and presented an oblique fracture immediately below the trochanter major. The fractured extremities lay bathed in purulent matter; the periosteum had peeled off, but there was no appearance of cancerous deposit or other disease in the osseous structure. We now proceed to the consideration of the second case.

Cancer of the Penis; Removal; Death two years afterwards; several Viscera affected with Cancerous Disease.

(Under the care of Mr. Hancock.)

The patient was a man sixty-two years of age; he first applied to Mr. Hancock in 1848, complaining of an ulcerated penis. On examination, that organ was found affected with cancer in the ulcerative stage, and a great portion of the same had already perished. The patient stated that he had never had syphilis, and that the present complaint began with a wart on the glans, which had ulcerated and spread to the extent now seen, in the space of a few months. The glands of the groin were found free from disease; the patient had never had phimosis, and Mr. Hancock resolved to give his patient the only chance now left by forthwith removing the penis. The operation was performed in the usual way; the wound healed pretty rapidly, and the patient was discharged quite well.

Two years afterwards, he applied again at the hospital, complaining of gastric derangement, pain and uneasiness in the hepatic region and scrobiculus cordis; he was admitted under the care of Dr. Chowne, in June, 1850. He remained some time in the hospital, but in spite of appropriate treatment, he grew much worse, and died four months after admission.

The post-mortem examination was conducted by Mr. Jessop, the house-surgeon to the hospital. The viscera which were found affected with the cancerous disease, were the liver and lungs; the former were somewhat enlarged, of a pale colour, and studded throughout with hard cancerous tubercles, varying in size from a horse-bean to that of a small pea; by sections made across the liver, it was found that these abnormal growths (which projected about two lines above the surface) pervaded the substance of the organ to such an extent as to form nearly half its bulk. The lungs were studded with tubercles of a similar character, principally towards the apices, and the mediastina likewise contained a great many of these growths.

Now, it might be asked, what would have been the condition of these two patients had no operative interference taken place? Mr. Avery's patient, who was suffering from a scirrhous breast, would have had to submit to the various stages of inflammation and ulceration, which would have rendered life burdensome and miserable; and supposing even that she had dragged on a wretched existence for about the same period as she actually lived, or even more, it cannot be doubted for a moment but that her state was far more bearable after the operation than if Mr. Avery had refused to remove the breast. We are aware that cases have been known where patients have lived several years with frightful cancerous ulcerations upon them, but these (if even such a life could be brought forward in favour of non-interference) are rather the exception than the rule; and an operation in the early stage could hardly be condemned, except it could be proved that it was likely to accelerate, or had in some cases really *hastened* the fatal termination. How often are hospital surgeons and their pupils shocked at distressing ulcerations presented by unfortunate patients of the humbler classes, who, after having been subjected to numberless applications by their *friends*, and *quacks*, apply for relief when the disease is beyond human power.

Mr. Hancock's patient was likewise far better off during the time which elapsed between the removal of the cancerous penis and his death, than he would have been had no operation been performed. Our readers may recollect a case of cancer of the same organ, in a patient at St. Bartholomew's Hospital. (The Lancet, *ante.*) Here the disease was so far advanced that Mr. Paget very justly declined to operate, and the remainder of the poor man's life, though it perhaps will be but short, will be far more wretched than if the disease had been eradicated early, and the patient had died at the same period which will now close his career. We are aware that it is objected that such operations throw discredit upon surgery, but the apprehended blame might be forestalled by making patients acquainted, as distinctly as circumstances will admit, with the real nature of the case; and when they will be told that, besides a comparatively painless life to be obtained by an operation, there is ever so small a chance of that life being somewhat prolonged, or even a shadow of hope that the disease may not reappear at all, they will certainly submit to operation with the utmost willingness, and hold the surgeon free from any reproach or blame. In the consideration of these cases it should be particularly noticed, especially as regards the history of cancerous diseases in general, that the parts originally affected with the cancerous disease, in both these cases, remained totally free from any recurrence of the carcinomatous affection. We have observed in other hospitals cases which will go far to strengthen this position, and shall bring them before our readers at the earliest opportunity.

MIDDLESEX HOSPITAL.

Cancer of the lip; Excision; Recurrence of the Disease.

(Under the care of Mr. Campbell de Morgan.)

Dr. Walshe, in his valuable work on Cancer, says, in speaking of the cancerous affections of the lip—"It is a matter of common belief that the lip is one of the situations in which the excision of cancer may be undertaken with the strongest hopes of success. There can be no question that the prevalent notion on this point is an exaggerated one, and has arisen in consequence of syphilitic sores having been cut away as cancers. I have in some instances known the disease return, after apparently complete excision, in two or three months; and in a case I saw operated on by Dupuytren, in 1834, the progress and fatal issue of the affection were obviously hastened by the use of the knife. M. Velpeau gives a very gloomy account of his experience; even in the most simple cases of limited ulcerations, he has found the disease reappear within three or four months, more or less, either in its original site or elsewhere."

These statements are not calculated to encourage surgeons in removing cancerous growths of the lip, and yet it would appear that the operation is rather frequently performed, if we may judge from what we witness in the hospitals of London. It would of course be difficult to decide as to the frequency of recurrence, as some patients do not return to the hospital when that unfortunate event takes place; statistics on this subject would be very useful, but very difficult to obtain, as the disease has been known to reappear in six or seven years, and likewise in so many months. Mr. de Morgan was lately kind enough to point out to us a patient of his, who offers a remarkable instance of a recurrence of cancerous disease several years after the excision of a very small malignant growth from the lip.

The patient was admitted into the cancer ward, Oct. 5, 1850, under the care of Mr. de Morgan. He is thirty-five years of age, follows the occupation of a market-gardener, in a southern county, and has always enjoyed excellent health. His food has never been scanty, nor his labour excessive; he has been much in the open air, where he was now and then exposed to wet, and smoked very moderately. No cancerous disease has existed in the family: the man seems to have been hale and strong; and it is embarrassing to understand how the malignant disease could fasten upon such a subject. Among the possible causes, the only one which seems at all likely, is the pipe and tobacco-juice. About *seven years ago*, he noticed a small pimple on his lower lip, near to the left commissure; it grew slowly, and he used different means for its destruction, for about two years. At last, the ulcer was excised in the country, when about the size of a nut, the surgeon having told the patient all this while that he was endeavouring to get rid of the tumour without operation. The incision healed up in about a fortnight, and the man returned to his occupations.

For the next four years and a half the health was perfect, but now a small and hard kernel began to be felt just below the body of the lower jaw; this went on increasing, and in the space of five months, reached the size of an orange. On admission, the incision made for the primary tumour could hardly be distinguished, but the cancerous affection, which had seized upon the glands, had caused induration and ulceration; it had likewise made way towards the mouth, the gums being on the point of ulcerating. The mass, about the size of a clenched fist, feels hard and nodulated; it is not particularly painful on pressure, and does not discharge much purulent matter; there are, however, shooting pains through the tumour, the patient's sleep being much disturbed by them. The general health is pretty good; the pulse rather slow and weak; the mouth can be opened but to a very limited extent, and the tongue is imperfectly protruded.

Mr. de Morgan can of course use but palliatives with the poor man, as any surgical interference is out of the question. It is, however, very remarkable that the disease should have lain dormant for almost five years, when the glands (which probably were not enlarged at the time the cancerous growth was removed) take on a diseased action which proves to be of the same nature as the primary growth. The question (not easy of solution) naturally suggests itself, whether the constitution would have been equally contaminated had the cancerous growth been removed at once instead of two years after its appearance.

Recurrence of the disease will sometimes take place comparatively soon after operation; a patient lately under the care of Mr. Lawrence, at St. Bartholomew's Hospital, lately offered a good example of this fact. The patient is a strongly made and hale countryman, who has all his life been engaged upon farm work; he is about fifty-five years of age, and has been accustomed to smoke, as he terms it, "just one pipe after dinner, and one in the evening." About six months ago, a cancerous ulcer, which had for some time been existing on the lower lip, was excised by Mr. Lawrence; the wound healed very rapidly, and in a fortnight the patient was ready to leave the hospital. After *one month's* stay in the country some uneasiness was felt in the part, and the patient came up to town; soothing applications were prescribed, but after a few journeys to and from the country, evident signs of cancerous induration, and soon afterwards of ulceration, were found, originating from the point of junction of the two lines of incision which had been made for the removal of the primary cancerous tumour, the sub-maxillary glands being likewise enlarged and indurated.

It is rather remarkable that the two preceding cases refer to men who have spent their whole lives in the country, whose families were free from any taint, and who lived moderately and temperately. Is it the habit of smoking the origo mali? if so, the sooner it is left off the better. It can, at the same time, not be denied, that were that habit to lead mostly to the formation of cancer of the lip, the disease must be much more common than we find it, considering the large number of individuals who indulge in the practice of smoking. It seems almost certain, however, that the pipe acts as an exciting cause, which, it must be supposed, has more or less certain results according to the person who makes an habitual use of the same.

NEWCASTLE-ON-TYNE INFIRMARY.

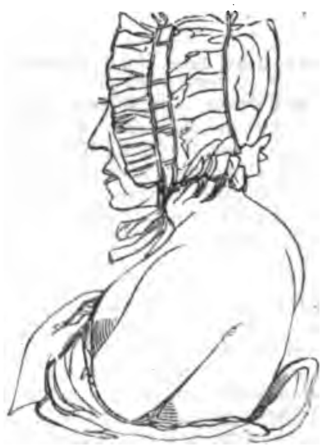
CASE OF CONCUSSION OF THE BRAIN, WITH DISPLACEMENT OF THE VERTEBRÆ.

(Reported, with a drawing, by Mr. H. M. Greenhow.)

Mary K——, aged twenty-five, admitted July 17, 1850, into the Newcastle Infirmary, under the care of Mr. T. M. Greenhow, with concussion of the brain. She fell from a window, thirty feet high, alighting on her head. Is quite insensible, and has lost a large quantity of blood from a wound of the scalp, which extends from the forehead to the occiput. No fracture can be detected. The right clavicle is broken about its centre, wound carefully dressed; clavicle bandaged. To take a dose of calomel and jalap. Cold to be applied to the head.

In three days, consciousness returned completely, and she recovered without a bad symptom.

Aug. 1st.—The wound is completely healed. She complains of pain in the neck. On examination, a smooth tumour, as represented in the drawing, is found to occupy the posterior portion of the neck, and is produced apparently by the partial dislocation of the three or four upper dorsal vertebræ. The head is pushed forward, and the neck cannot be straightened. The skin over the tumour is tense, but not tender to the touch. The spinous processes of the vertebræ can be traced upwards till they become indistinct in the upper



part of the tumour. There was no such deformity previous to the accident.

27th.—The tumour remains in the same state. There is no pain, or paralysis, or other symptoms of compression of the cord. She uses her limbs with perfect ease, and has the proper control over them. Her mind is completely unimpaired. She has quite recovered from her other injuries.

This case is worthy of observation, from the absence of all the symptoms which usually accompany any injury to the spinal cord.

ROYAL ORDNANCE HOSPITAL, WOOLWICH.

Cases of Aneurism of the Femoral Artery Cured by Pressure.

(*Reported by* J. E. I. Parratt, Esq., H.B., Ord. Med. Dep')

Case 1.—Gunner and driver Martin Duncan, 5th Battalion Royal Artillery, of nervous sanguineous temperament, and of healthy appearance, stationed at Woolwich, was admitted into the Ordnance Hospital, on the 14th of January, 1850. He complained of swelling of the right leg and foot. Upon examination, a tumour, of the size of a large orange, was discovered at the commencement of the lower third of the thigh, which was seen to pulsate strongly: a violent throb was communicated to the touch, and a bellows murmur, synchronous with the heart's beat, was detected by the application of the stethoscope. No cause could be stated to account for the disease.

On the 18th of January, Mr. Bulley's spring tourniquet having been obtained from Mr. Weiss, it was applied over the artery above the tumour; this instrument having the advantage of two pads, which were alternated every half hour the first five days, and then every two hours. The circulation in the femoral artery was thus gradually lessened, and time given for the collateral circulation to be established.

On the 25th, at five P.M., the pulsation in the tumour completely ceased, and did not again return.

On the 20th of March, the patient was discharged from the hospital, completely cured, scarcely a vestige of the tumour remaining.

During the progress of the cure, occasional doses of Battley's solution were given; the temperature of the limb was scarcely if at all affected.

On the 28th of January the tourniquet was entirely removed.

(*Reported by* Henry Briscoe, M.D., Assistant-Surgeon, Royal Artillery.)

Gunner and driver John Wardle, Royal Artillery, aged twenty-two; middle stature, stout conformation, florid complexion, and temperate habits, was admitted into the Royal Ordnance Hospital, Woolwich, on the 15th of July, 1850, with a pulsating tumour along the course of the femoral artery, about the middle third of the right thigh. He stated that three weeks previous to admission, while jumping off the timber of a gun at battery drill, he felt as if he had strained the thigh; a swelling of the part gradually formed, and increased in size, and on its becoming painful, he was obliged to report himself in the sick list.

Upon examining the right thigh, a pulsating colourless tumour, definable on pressure, about the size and form of a turkey egg, was discovered along the course of the femoral artery, as it enters Hunter's canal. On applying the stethoscope, the aneurismal bruit was distinctly heard; firm pressure on the artery commanded the pulsation of the tumour. The tumour was firm, immovable, and not reducible in size. He complained of a sensation of numbness about the knee and posterior part of the leg.

It was determined to attempt the cure by pressure, as a successful case, under the care of Mr. Parratt Royal Horse Artillery, had occurred a short time previously in this Hospital. The ring tourniquets in the hospital not being sufficiently large to admit the thigh, pressure was not resorted to till the 19th, when the limb was bandaged from the foot upwards, slightly elevated, and the tourniquet (one of Mr. Bulley's) having been enlarged, was applied. The pressure employed at first was such as only to diminish the flow of blood through the artery, but not entirely to impede it; and at each morning visit it was gradually increased, but frequently during the day it had to be relaxed for a minute or so at a time, as the pain occasioned was considerable. The difference of temperature between both limbs did not at any time exceed two degrees. By steadily adhering to this treatment, the pulsation of the tumour was much diminished on removing the compression on the 28th. The tourniquet was re-applied, and on the 1st of August there was no impulse whatever in the tumour. On the 3rd of August, the instrument was finally removed, and on the 29th he was discharged, with seven days' "convalescent duty," at the expiration of which he returned to his regular duty.

Reviews and Notices of Books.

On the Crystalline Lens and Cataract. By Bernard Edward Broadhurst, 8vo., pp. 246. London.

When such elaborate treatises on the eye are already before us as those by Mackenzie, Lawrence, Middlemore, and Travers, in which the subject of cataract is ably and fully considered, we naturally look to the appearance of a separate work on this subject with considerable interest, in the anticipation of finding, not alone much that is new, but with the hope also of discovering novelty combined with utility. A considerable portion of a work on the crystalline lens and cataract must, we feel, be necessarily occupied with an account of the present state of our information on these points, but beyond that we have a right to expect further instruction. How far the author has fulfilled his duty to the medical public in writing this work, we shall proceed to determine.

The first thirty-two pages are devoted to the anatomy and physiology of the lens; the next fourteen to the iris; and the remaining 200 to the varieties of cataract and their treatment.

A succinct account of the crystalline and capsule is given, and we find that the author differs in opinion from Bowman with respect to the aqua Morgagni; the latter believes it is due to the permeation of the capsule by the aqueous humour, whilst the former considers that it depends upon decomposition of the lens itself. Both regard its presence as abnormal. In speaking of the adaptation of the lenses to the distance of objects, much stress is laid on the action of the ocular muscles, and appeal is made to comparative anatomy; but the ciliary muscle is left altogether out of consideration, and the views of Dr. Clay Wallace are passed by unnoticed. This hiatus in the anatomy and physiology should not have been made. In speaking of the iris, the author combats the opinion of Dr. Jacob, that the membrana pupillarus is absorbed, and states that when light is first admitted to the eye, the membrane becomes ruptured, as may be seen by immersing a kitten in water, and separating the lids. One swallow, no more makes a summer than this single experiment proves the fact for the human subject. The remarks on the necessity of accurate statistical tables of the results of operations for cataract, especially in reference to extraction and reclination, are very judicious, and the desideratum has long been felt. Tables there are, but precision of description is wanting, and they hence become valueless in determining the question of preference. We approve of the tabular form suggested, and would recommend its adoption as being "sufficient, though simple, and neither tedious to refer to, nor difficult to construct." Had these tabular views been followed out, in a later part of the work, in respect to the diagnosis of cataract, glaucoma, and amaurosis, we should have been additionally gratified. After a description of the various forms of cataract, the question of operation, when the disease affects one eye only, is considered, and a reply in the affirmative, from well-digested data, is given. The chapter on Lentilis is ably written, and deserves careful perusal. This is followed by an account of Congenital Cataract, in which attention is directed to malformations of the eye, in connexion with abnormalities of other parts of the head; and again is the pupillary membrane referred to as being ruptured at birth. Under the head of Traumatic Cataract, some interesting cases are related as having occurred at the London Hospital and the Hôtel Dieu. It would have been well had the author mentioned to whose care they were submitted. Twelve pages are devoted to the consideration of Cataract from Concussion and Succession; and this part of the subject is clearly treated. A lithographic drawing here introduces us to two eyes, which certainly look unnatural enough, but are sufficiently illustrative. In writing of Hard Cataract, the statement of Schön is repeated, that an *arcus senilis* of the lens or capsule is to be found co-existent: this latter change, however, the author has not observed; and we may state, from a paper in our possession, by Mr. Edwin Canton, that in his numerous dissections of the aged eye, he has not once seen this appearance. Surely the diagnosis of cataract is a matter of no small importance, and calls for more than two pages of large type! On Prognosis, more is written—and well written, too. It is stated that "inflammation, *or* disease of the conjunctiva *or* eyelids, *render* an operation for cataract *impracticable*:" for the next edition we would suggest—"*renders* an operation for cataract *unadvisable*." The various circumstances requiring the performance of reclination, in place of extraction, are fairly stated.

In reviews, all hypercriticism should be sedulously avoided; and it is but little to require of an author that his grammar should be correct, and his expressions free from vagueness. Such as the following, then, should be amended:—"Errors of formation and arrests of development are frequently not limited to one member of a family, but may affect *each* and *every*." Similarly framed passages might be quoted, in illustration, besides the above and the one previously cited.

The work, on the whole, possesses merit, but, on the other hand, that the contents should have been suffered to form a separate treatise is a demerit, when the publication of a few short papers would have been all that the author could reasonably have aspired to.

Die Asiatische Cholera und Gesundheitspflege ein Beitrag. Von Dr. C. F. Riecke, Regimentsartz im Königlich Preussischen Kadetten Corps. Nordhausen, 1850. Adolph Büchting. pp. 82.

Asiatic Cholera and Hygiene. An Essay by Dr. C. F. Riecke, Physician to the Prussian Cadet School.

We have been much pleased with this work: the author puts forward some very sensible notions on the much debated subject of cholera. He thinks that cholera will lose much of its mystery, if we succeed in finding out the analogy of the disease with other epidemics, and when it is clearly shown that cholera requires, as concerns countries, nations, and individuals, a certain amount of predisposition, which latter being removed, the scourge must become powerless. The author states, (p. 52:)

> "Cholera is a malarious disease—a sort of malarious neuralgia, which acts through the vitiated state of the humours brought on by miasmata. Cholera is to be classed in the same category with ague, typhus, the plague, and yellow fever. The effects of effluvia are as conspicuous with cholera as with the yellow fever and the plague."

Dr. Riecke maintains that the cholera broke out in Germany in malarious districts principally, and independently of any contagious influence. His opinions are well developed, and he endeavours to support them by careful reasoning, and facts. We cannot here enter into any discussion on the subject; but as to facts, we shall just quote the following, which are not devoid of importance:—Though the author is anti-contagionist, he admits that the mortality among medical men and their attendants was large; in Algiers 51 attendants died out of 179; In Russia, 50 military surgeons died of cholera in 1848; in Milan, eight physicians out of 16; three died in Köningsberg, and eight in Berlin. In Austria, in the second half year of 1849, 68 surgeons out of 800 died of cholera and typhus; and of assistant surgeons and hospital attendants a much greater proportion perished. The author considers that these deaths do not weigh in favor of contagion, when the large number of those is considered who were exposed to the morbid influence and escaped.

The Surgeon's Vade Mecum, By Robert Druitt, F.R.C.S. Fifth Edition. Fcap. 8vo. pp. 660. London: Renshaw.

The former editions of this valuable compendium have been fully noticed in our journal; we shall therefore merely briefly allude to this, the fifth, which has been brought down to the present time, much enlarged and improved, and, as the author observes, with the avoidance of the common vice of books which pass through many editions, and which are apt to increase to an inconvenient size by the addition of new materials. Mr. Druitt has in this edition followed his former arrangements, and divided his work, for the easy reference of the student or practitioner, into four sections. The first consists of affections of the entire constitution, which may be induced by disease or injury of any part; he then treats of the various elementary forms of local disease, and of the changes which disease may effect in the structure of any part of the body; and in the third part he treats of cuts, bruises, stabs, gunshot wounds, poisons, &c.

In the fourth section all the various structures, organs, and regions of the body are treated, beginning with cellular tissue and skin, muscle, bone, bloodvessels, and the head; there is also a very important chapter on diseases of and operations on the eye.

The last part contains a description of such operations as are not included in the other parts; and here we may allude in particular to that one on the excision of joints and amputations. Here the author forcibly points out the improvements this branch of surgery has undergone within these last few years. One of these, he states, is mainly due to Mr. T. H. Wakley, that of saving as much of a limb as possible; this he calls "Wakley's Operation," and the author says, "that no more of the body should be removed than is absolutely requisite for the removal of disease, and guided by this principle, Mr. T. H. Wakley, in one case of diseased ankle-joint, removed the diseased bones only—that is, the os calcis, astragalus, and malleolar processes of the tibia and fibula, with a small portion of the integuments of the heel, without removing the rest of the foot, as in Mr. Syme's operation." The chapter on hernia is complete, and includes a full description of the operation for femoral rupture promulgated by Mr. Gay.

The appendix contains some new prescriptions available in the treatment of disease; and we notice also in this edition, twenty additional engravings, not, as the author observes, mere diagrams invented in the artist's studio, nor yet copies from any other published work, but faithful and original representations of some fact or object in nature. We cannot conclude this brief notice of Mr. Druitt's surgical compendium without observing, that it is one of the most valuable books of reference we possess.

Der Kriegs—und Friedens—Typhus in den Arméen ein Beitrag zu einer Küftigen Gesundheitspflege in den Kriegsheeren. Von Dr. C. F. Riecke, Regimentsartz im Königlich Preussischen Kadetten Corps Nordhauseen, 1850. Adolph Bûchting. pp. 378.

Typhus among Soldiers in times both of War and of Peace; a Contribution towards Hygienic Improvements in the Army. By C. F. Riecke, M.D., Surgeon to the Prussian Cadet School. Nordhausen, 1850.

The author of this work steps forward as a reformer, and points out that neglect of hygienic rules as the principal cause of the dreadful havoc which typhus makes in the Prussian army, both in peace and war. He calls upon those in authority to take warning, and rise out of their apathy, for the sake of suffering humanity.

Dr. Riecke considers typhus as a blood disease, the vital fluid being poisoned by both animal and vegetable miasmata. He takes a survey of the diseases which bear some analogy to typhus, as scurvy, dysentery, cholera, ague, &c.; and shows what influence climate, shelter, clothes, physical and mental exercise, food, and various miasmata, have on the production of typhus. The disease is then considered as affecting the military; and the sketches of its ravages given in the second division of the book are really heart-rending.

The third division treats of prophylactic measures; and the sanitary and hygienic regulations proposed by the author bear the imprint of sound medical knowledge and praiseworthy philanthropy. By what Dr. Riecke proposes to introduce, we are made acquainted with the present state of sanitary matters in the Prussian army, and we cannot congratulate the descendant of Frederick the Great upon his wisdom. Napoleon and Frederick were particularly anxious as to the health of their soldiers; and the crowned heads of our times would seem to have as many reasons to act in a similar manner, though the Prussian government is really very neglectful, if we are to believe the author before us.

Dr. Riecke, as we stated above, considers typhus as a kind of miasmatic impurity, carried to a very high degree of subtlety, and thinks that it acts through this influence, as does cholera, dysentery, &c., without the aid of contagion. He gives a very powerful description of the many ways in which these miasmata are generated among the soldiery, and shows how this state of things could be avoided. To let our readers judge how far the soldiers' constitutions are capable of withstanding those evil influences, we will just quote a passage of the book, bearing upon the food of the Prussian military:—

> "As the soldier has only one groschen (about 1¼*d.*) for his dinner, it is clear that he can hardly procure, with the present high prices, a sufficient amount of potatoes, cabbage, &c., to fill out the ever-gaping stomach, so often distended with the black and coarse rye-bread. As to meat, he must not think of it."—p. 84.
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> "The young soldier of twenty, who is required to use the most trying physical exertions, is almost restricted to the vegetable kingdom, for his bill of fare comprises only rye-bread, cabbage, potatoes, turnips, &c."—p. 85.

The author condemns, and very justly, the necessity under which the soldier is placed, of distending his stomach and cæcum to an enormous degree, to obtain the requisite amount of nutrition. Thus is the army ever encumbered with huge wagons, laden with heavy, moist, black, branny, and sour rye-bread. It is to be hoped that this sensible and well-written book will have the effect of opening the eyes of those in authority.

Foreign Department.

Complete Absence of the Anus and Rectum.

M. FORGET lately published in *L'Union Médicale* the case of a child which thirty-six hours after birth, had not passed any meconium. In place of the anal orifice, there was an elastic piece of skin which did not yield a sense of fluctuation. M. Forget, though he suspected an absence of the rectum, thrust a small trocar into the pouch, but brought away a few drops of blood only; he continued to search for the rectum with a straight bistoury, but found no such gut, though his knife was fairly in the pelvis. M. Forget proposed to the parents an artificial anus in the iliac fossa, but this was obstinately refused, and *the child sent to nurse into the country*, where it died, amidst horrible suffering, without having passed any motions.

On a post-mortem examination the descending colon was found to end in a blind pouch opposite the lumbo-sacral articulation, and from this bag a fibrous cord, representing the rectum, was proceeding through the pelvis to the septum across the anus, holding the same relations to the surrounding parts as the rectum would have done. M. Forget mentions four cases, where both rectum and anus were wanting; they are respectively related by Ruysch, Binninger, and Jamieson. The author infers from this case that surgeons should search for the rectum with much caution, when called upon to remedy an anal malformation.

Iodine in Fresh-Water Plants and Animals.

M. CHATIN, Professor at the School of Pharmacy of Paris, recently sent a paper to the Academy of Sciences, wherein he gives the details of his investigations relative to the existence of iodine in some fresh-water animals, as the leech, crab, frog, &c., as well as in the plants which grow in the same waters. Iodine has been found in greatest quantity in ferruginous water. The author thinks that goître is owing to the too minute quantity of iodine to be found in the water of certain countries.

Tumour of the Rectum containing the Débris of a Fœtus.

M. BOUCHACOURT, chief surgeon of the Charité of Lyons, communicated to the Academy of Sciences, on the 26th of August last, the case of a little girl, six years of age, from whom a tumour of the rectum was extirpated, which contained the débris of a fœtus. This case belongs to the endocymian monsters of Geoffrey St. Hilaire. Since the case related by Velpeau, in 1840, this is the only monstrosity of the kind which has required a surgical operation. The tumour was removed by excision and the ligature.

Doubted Reduction of a Luxation of long standing.

A discussion lately took place at a meeting of the Surgical Society of Paris, which exemplified in a very striking manner the inconvenience of publishing cases which are not complete. It would appear that M. CHASSAIGNAC reported to the Society, a short time ago, a case of a luxation of the humerus into the axilla, reduced after some months' standing. The patient was so pleased with the result, that he stayed but two days in the hospital, and could not be prevailed upon to submit to the treatment so essential after any reduction, and especially after one which is effected some time after the dislocation. The patient was, however, seen in the country by a surgeon, who found that the head of the bone was still in the axilla; and this practitioner forthwith writes to the Surgical Society stating the fact, and insinuating (which hint we think anything but brotherly) that the much lauded reduction did not take place at all. M. Chassaignac was of course very much shocked, both at the state of the patient and at the conduct of his professional brother. The Society supported M. Chassaignac in a rather lukewarm manner. We cannot help thinking that the head of the bone may have been completely reduced, and slipped out again, as the patient was left entirely to himself two days after the reduction.

Tying of the Common Iliac Artery.

M. CHASSAIGNAC, Surgeon to the Hôpital St. Antoine, at Paris, informed the Academy of Sciences, at the meeting of the 23rd of September last, that he had tied the common iliac artery upon a man forty nine years of age, from whose thigh he removed a cancerous tumour. The latter was situated on the internal portion of the limb, and communicated with the pelvis through the obturator foramen. The ligature applied to the iliac artery was intended to prevent fatal hæmorrhage during the removal of the tumour; which having been explored with a fine needle, yielded a jet of arterial blood. The end held in view in tying the vessel was completely attained, though the patient died the day after the operation; for the dissection was long and tedious, large arteries had to be divided, and very little blood was lost. M. Chassaignac brought this case before the Surgical Society of Paris, where the operation was generally, and, we think, very justly, censured.

Black Sulphuret of Mercury in Typhoid Fever.

Our readers are aware that M. SERRES, of Paris, is a great advocate of the proto-sulphuret of mercury, and mercurial frictions on the abdomen, in the above-mentioned disease. M. Becquerel has lately been treating a great many cases at the Hotel Dieu, by this method; and it would appear, by a paper presented to the Academy of Sciences, by that physician, that he has met with great success. He adds small doses of musk to the treatment, and thinks very highly of M. Serres' method. The matter was lately brought before the Medical Society of Hospitals: the treatment found much opposition, and objections of great weight were brought against it, by various speakers of reputation. Among the former, was the fact of the late epidemic having been extremely mild, the uncertainty of action of the sulphuret, the influence of the diet and stimulants, and the purely local effect of the frictions.

On Phosphenic Phenomena.

M. SERRES (of Alais) lately addressed a paper to the Academy of Sciences, of Paris, in which he endeavours to show that the luminous impressions excited in and around the eye by pressure in the neighbourhood of the organ, and called phosphen, might be rendered useful in ophthalmology, as a diagnostic sign, in those diseases of the eye, where it is of importance to ascertain the state of the retina, and the degree of paralysis which it has suffered. After more than one thousand trials, the author has found that the luminous circle has always been produced when the pressure has been applied on the nasal side of the eye; and when, after several days trial, no annular light is thereby excited within the eye, it may confidently be concluded that the retina is paralyzed, and that any operations performed on the cornea, the iris, or the lens, would have no good results.

Large Urinary Calculus in the Female Spontaneously Voided.

M. FORGET has just published, in *L'Union Médicale*, a case of stone in the female, which was communicated to him by Dr. BRIAULT, (of Saintes.) The patient is about fifty years of age, and affected with an ovarian tumour, which is supposed to be of the encysted variety. She one day complained to her medical attendant of some pain and difficulty on micturition. A catheter was passed, after a little trouble, and the finger placed in the vagina came in contact with a prominence formed by the anterior wall, which felt like the protuberance of the prostate gland in the male, when the finger is passed into the rectum. Rest and emollients were prescribed, but the next day Dr. Briault was shown a large calculus, which had been passed after many very painful efforts. It weighed one ounce and one drachm, and was of a lengthened and narrow form, having a *body* and a *neck*, which had corresponded to the bladder and urethra. The total length was three inches and four lines. The calculus was covered with hardened muscus, which circumstance accounts for the catheter having touched it without producing any sound. The nucleus was composed of ammoniaco-magnesian phosphate; the layers, of the same salt, with phosphate of lime, and the external rugosities, of uric acid. The urethra was so large that the index-finger passed easily into it and the bladder. There was incontinence for a few days, which, however, soon subsided.

Vesico-Vaginal Fistula.

M. Jobert de Lamballe has, as it would appear, been very successful of late in obtaining the cicatrization of vesico-vaginal, and even recto-vaginal fistula. The peculiarity of his method lies principally in the precaution he always adopts, of making one or more incisions at a little distance from the fistula, so as to be able to make the tissues *glide* towards the point where they are deficient and the cicatrization is sought, (Autoplastie par glissement.) M. Jobert has again published a successful case of vesico-vaginal fistula, in *L'Union Médicale*, the lesion being, as usual, the result of pressure on the soft parts during parturition. The operator divided a portion of the mucous membrane, reflected from the vagina on the neck of the womb, to allow that membrane to be brought down towards the rent, and to make up for much puckering which had taken place along the vagina. We particularly mention, for the benefit of those who allow themselves to be discouraged by failing in a first attempt to obtain cicatrization by sutures, that in this case one of the four sutures applied, ulcerated away on two different occasions, and was again applied with praiseworthy perseverance, and that it at last answered the purpose. We congratulate M. Jobert on his success: we have now read of several cases of his, in the French periodicals, where the results were favourable. We look forward, however, to statistical tables, in which we shall be informed, by M. Jobert, both of successful and unsuccessful cases.

Miscellaneous Correspondence.

LAMENTABLE EFFECTS OF THE MENTAL EMOTION OF THE MOTHER ON THE FŒTUS IN UTERO.

To the Editor of The Lancet.

Sir,—The question whether the mental emotions of the mother can influence the child in utero has been debated from time immemorial, some arguing for, and others against it. That such was the popular opinion in very ancient times, we learn from the 30th chapter of Genesis, in which we are informed that Jacob, in order to render the cattle striped, speckled, and spotted, placed peeled rods before the eyes of the females in the act of copulation; and in modern days the opinion has been supported by Meckel, Soemmering, Breschet, Serres, and Geoffrey St. Hilaire; while, on the contrary, it has been disputed by many tutors on midwifery, and amongst the latter by myself, who drew my conclusions in consequence of being cognizant of many cases of women having been exposed to mental disturbance and unpleasant sights without any effect on their offspring; but I am now converted to the opposite opinion from numerous incontrovertible facts which have come lately within the range of my own observation. The *modus operandi* I do not pretend to explain; but Geoffrey St. Hilaire, who has written largely on the subject, attributes monstrosities and deformities to long continued pressure on the abdomen of the mother, or to the fact of her having been exposed to long continued mental emotions. Now, in the case which I am about to relate, a passing thought arising from the sight of a deformed child, and which thought was forgotten for months, was sufficient, in a woman in the sixth week of pregnancy, to lop off two arms from the child she was then bearing, exactly corresponding with the deformity which existed in the child she saw. The following are the particulars of the case:—

Mrs. F——, of Little Moorfields, of average stature, sound health and between twenty-five and thirty years of age, was confined with her second child on the 10th of June, 1850. Her first labour was tedious and severe, in consequence of which the infant was stillborn, but without deformity. In this instance the labour was both easy and natural, and the child, which was a fine healthy boy, was found to be well developed in every respect, except that he was deficient of both arms. On the left side, the glenoid cavity and acromion process of the scapula may be plainly felt, but there is not the most rudimentary trace of a humerus. The right side is similiar to the left, with this exception, that there is a fleshy protuberance attached to it of about two inches in extent, which protuberance is surmounted by a well-formed finger. On being shown her infant, and the deformity pointed out, she made the following statement:—"That she was one day walking down the Minories, where she met a child without arms, and similar in every way to her own; that she was horrified at the sight, but that she had entirely forgotten the occurrence, and that this happened about the sixth week of pregnancy, when she was in doubt whether she was in the family-way or not."

A non-professional gentleman, to whom I mentioned the circumstance, informs me that this child is to be seen any day in the Minories, showing its deformity to the passers-by, and which he describes to be similar to a woman's breast surmounted by a nipple.

I would here beg to observe that it is both cruel and disgraceful to allow this child to run at large without its being properly clothed, so as to hide its deformity; because inasmuch as it has been sufficient to affect one pregnant woman, there is no reason why it should not similarly affect hundreds of other women out of the thousands and tens of thousands which pass along that great thoroughfare; and it must be confessed that the loss of both arms to those who have to obtain their living by their own handiwork is a most serious and lamentable affliction.

The infant is living, and doing well.

I am, Sir, yours truly,
R. Davis, M.R.C.S.

Brunswick-place, City-road.

To the Editor of The Lancet.

Sir,—The name of Davis has long stood high in obstetric authority, and it is much to be regretted that it should now be employed in supporting a theory like that advocated by Mr. R. Davis.

Mr. Davis gravely tells us that "the arms of a child in utero were lopped off by the passing thought of the mother, arising from the sight of a child without arms!"

I perfectly agree with Mr. Davis that "such objects as children without arms should not be permitted to run about the streets without decent clothing;" but the fact he mentions of the child in the Minories having been seen constantly in this state "by thousands and tens of thousands of persons," and only one similar case having been even supposed to arise from this circumstance, clearly shows that the sight of this child could not have been the true cause of the deformity of Mrs. F.'s infant. And before making so serious a charge against the child in the Minories as that of "having caused the lopping off of the arms of Mrs. F.'s infant," Mr. Davis should have recollected that the loss of the arms in question could not have arisen from any "passing thought" Mrs. F. had when she saw the child in the Minories; for at that period, "the sixth week of her gestation," the infant in embryo could have no arms to lop off; and Mr. Davis distinctly tells us it was only a "passing thought" which affected Mrs. F., and "that it never recurred to her again from the time she saw the child in the Minories till after the birth of her own infant." If Mr. Davis really thinks "a passing thought of a mother can lop off the arms of a child in utero," Mr. Davis ought by all means to have cautioned you respecting the sale and circulation of this LANCET; but, by negligence or otherwise, Mr. Davis's letter, so well calculated, not only to excite a "passing thought," but the most serious alarm amongst the ladies, should come under the eye of some unfortunate female, and thus, like the innocent child in the Minories, Mr. Davis would become the innocent cause of the "lopping off of some unlucky pair of arms." And what Mr. Davis says is very true, that "loss of both arms to those who have to obtain their living by their own handiwork is a most serious and lamentable affliction."

With every apology for thus occupying the valuable space of your LANCET,

I am, yours respectfully,
T. S. FLETCHER.

Bromsgrove.

FORMATION OF MONSTROSITIES.

To the Editor of THE LANCET.

SIR,—"*Facts* are stubborn things," but mere *coincidences* are *not* facts. A correspondent in a late LANCET mentions, as an "incontrovertible fact," that a woman (and very likely twenty thousand others) saw a child exposed in the Minories without arms, and that she, the one of twenty thousand, was also delivered of a child without arms. Having no reason to doubt the veracity of your correspondent, it may be, and doubtless is, "an incontrovertible fact," that the woman saw, and was delivered; but that these are cause and effect I deny *in toto*. The mysterious *modus agendi* of nature at the moment of conception is, and perhaps ever will be, beyond our comprehension; but the *germ* once formed by the *combined act* of the *two* sexes cannot be remodelled by the *separate* act of *one*. The acorn once planted in a good and proper soil grows up a perfect or an imperfect oak tree, according as the acorn—the germ—is itself perfect or the reverse; and so it is with human conception—once formed, the mother has but to nourish and protect it. A sudden fright, *or disease*, by interrupting nutrition, *may* destroy the embryo, but *cannot* produce those abnormal deficiencies and excesses of development which are occasionally met with, and which doubtless existed in the *germ*. My obstetric experience—not a slight one—extending over a period of twenty-five years, has not altered my firm conviction, of the utter impossibility of a mother's conveying a fancy or a fright from her head—to her uterus—through an *insensible* placenta—through a long *insensible* navel-string—into the umbilicus—and thence to some distant part of the body of a child, not united to the mother (à la Siamese twins) flesh to flesh, but *suspended* by this *insensible* navel-string in a bag of water, which assists in insulating it from the mother (so to speak,) at the same time that it protects it from injury. I maintain, further, that the sanguinary nutriment *in* utero can no more be made the means of conveying a sensation, and thence a "mark," than can the lacteal nutriment *ex* utero. I invariably ask my patients *before* they are delivered if they have marked their children, and great numbers will fancy they have, and mention some horrid or remarkable circumstance that has taken place during their pregnancy; and yet I can conscientiously declare, that of the many hundreds I have asked, not a single one, even by *coincidence*, has *guessed* correctly. Find a diseased patch of skin or imperfection of any kind, and ask the mother *after* the birth, she will rack her brains, like the good woman in the Minories, till she imagines she has found the cause, although at that time "she was in doubt whether she was in the family-way or not." I delivered a female in Stamford-street of a child with an extra toe on each foot; another in Clarendon-square with an extra finger on each hand; another in Brownlow-street with an entire deficiency of the abdominal parietes; and one, only last week, in Porter-street, Soho, of a "monster," without cervical vertebræ or occipital bone, giving the child much the appearance of a large toad; and yet being asked *before* delivery, not one of them anticipated anything unnatural.

Having taken much pains, and incurred some odium in continually endeavouring to disabuse the minds of the ignorant and credulous on this subject, I cannot say how much I regretted that your correspondent, who says he is a "tutor on midwifery," should assist in propagating a vulgar error, and give the superstitious an opportunity of quoting him as their authority. God knows, there is credulity enough amongst the public, as witness the progress of humbug and quackery, without our being untrue to ourselves, and adding to it. Apologizing, Mr. Editor, for thus trespassing on your valuable time and space,

I am, Sir, your obedient servant,
SAMUEL RICHARDS, M.D.

THE LANCET PORTRAITS AND BIOGRAPHIES.

To the Editor of THE LANCET.

SIR,—In your notices to Correspondents I see it is intended to reprint the Medical Portraits on paper suitable for framing. Might I suggest the desirableness of their being also re-issued in the "Album" form, on tinted paper, accompanied with the Biographies; for though it will be impracticable to have all the Portraits framed, (unless every subscriber has a gallery devoted to the special purpose of "hanging" them,) few medical men who take an interest in all that relates to our divine profession would not feel it an honour to have such volumes, elegantly bound, upon their drawing-room tables.

As for myself, I at first determined to cut the Portraits out of the numbers of THE LANCET, and have them carefully mounted in a superb scrap-book; but when I saw that it was designed to strike off impressions for framing, I thought also that you might be induced to re-publish them in the form I have suggested.

"Excuse me for observing that I cannot but think it something remarkably "cool" on the part of Mr.

Johnson, your Lancaster correspondent, who tells you he will take the The Lancet just for the sake of having the Portraits, as if your priceless columns were nothing better worth than to be the "vehicle" for those engravings. If I might take the liberty, I would advise him to take more than one copy of The Lancet, and I dare venture to predict that, by the time he has read half a dozen, he will find it, as I can assure him I do, a *sine quâ non* to his enjoyment.

I have the honour to remain, Sir,
Your obedient servant,
Nov. 21, 1850. Titus.

THE FRAUDS OF HOMŒOPATHY.

(An Extract.)

"Perhaps nothing is more remarkable than the nature of these globules. Each weighs about the 1-25th of a grain, and they are sold in little bottles, labelled 'arsenic,' 'camphor,' 'musk,' &c. Now, it has been stated that a grain of musk will scent a room for twenty years, yet some labelled 'musk,' which I examined, had no odour. With regard to arsenic and copper, the refinements of modern chemistry can detect extremely minute quantities, yet the most eminent chemists have failed to obtain indications of the slightest traces of these materials; and be it remembered that the globules which have been examined have been taken from chests, which, according to the statements of their owners, produced wonderful cures. It is the common belief that all the globules are made alike, but it cannot be denied, that occasionally those who practise homœopathy contrive to substitute active doses of the more deadly poisons, when they are persuading their followers that they are but giving them harmless globules.

"As the epidemic of globules has now reached its height, and may soon be expected to abate, it would be instructive to collect the names and standing in society of those whe have yielded to this superstition, that, when some delusion shall arise, future generations may be warned by previous experience. Under the present aspect of political events, we must deeply regret that noblemen should show to the community any mental incompetency, by subscribing to such palpable absurdities, as such a course can only tend to bring the nobility into ridicule."

Success of the kousso in expelling tape-worm,—*Report of a case at the Staffordshire General Infirmary.*—A. B——, aged thirty-two, who had been married four months, was admitted, on the 19th of September, into the Infirmary under the care of Dr. Knight, suffering from tape-worm. She had been in bad health some years, but had first perceived portions of the worm in her stools about a month ago, and she now passed a few joints of it every two or three days. She had also two very suspicious-looking sores, one on each labium, and a swelling in each groin. Ordered black wash to the sores twice a day.

20th.—Eight a.m.: Took a dose of kousso, attending to the accompanying directions, except that through some mistake of the nurse, it was given in a quart of water at three separate draughts, instead of in the third of a quart at one draught.—One p.m.: Having had no motion, I gave her a dose of salts and senna, which she threw up in the course of an hour.

21st.—Ten a.m.: Had a copious evacuation, which contained the worm, including the head, and measuring twenty feet. It was coiled up in about a dozen lengths, and appeared as though tied up in a knot in the middle as a skein of silk. Two p.m.: Ordered, calomel and scammony, of each three grains; ginger and jalap, of each six grains; bitartrate of potash, a drachm. This produced several evacuations, the first of which contained four or five joints of the worm.

23rd.—General health much improved; has had no return of any of the symptoms which she attributed to the worm, since the 21st. Ordered, compound decoction of sarsaparilla, three times a day.

30th.—The sores rapidly getting better; in other respects quite well.

Oct. 12th.—Has seen nothing more of the worm, and is quite well in every respect. Discharged cured.

After taking the kousso, she stated that it had produced a dry, rough sensation in the mouth and throat, which made lemon-juice a very agreeable beverage. She had enjoyed perfectly good health since her discharge, which she had not done for years before.

The Ambassador of Nepaul and his Doctors.—*L'Union Médicale*, of the 3rd of December, 1850, contains a *feuilleton*, written in a very lively and witty strain, on the manner in which the Nepaulese Ambassador paid the Parisian surgeon, who treated, and cured him. It would appear that his Excellency (according to the French paper) came to Europe to transact diplomatic affairs, and to seek a cure for a troublesome affection. Sir B. Brodie was consulted, but the Indian Chief became soon impatient, and sought relief in Paris. He had been told that there was but one man there who could cure him, and scarcely had he arrived than he sent for him. The French practitioner, whose name is not given, but whose reputation as a specialist is well known, was at once told by the interpreter that the Prince would give £400 to the man who would cure him. The doctor replied that he was not in the habit of striking bargains, that he would use his best endeavours in the treatment, and be satisfied with whatever the munificent Ambassador would bestow upon him. The cure was obtained, after many difficulties were overcome, among which the gaieties of the Prince were not the least. At the last interview, the doctor fancied that the Eastern nobleman would take from his costume one of those gems with which he had been so lavish behind the curtain of the opera; but, instead of that, the interpreter asked for the *account*. The indignant medical man answered at once that he was not in the habit of making out accounts for such illustrious persons as the Ambassador, and that, if the latter were pleased with his attention, and the happy results of the treatment, he would be satisfied to take what had originally been promised him. Here the interpreter was rather embarrassed, and, after some conversation with the Prince, said:—"The Ambassador will not show himself less grateful to you than he was towards Sir Benjamin Brodie, the first surgeon of England; he wishes to place the medical science of Paris and that of London on the same level, and he desires me to give you what Sir Benjamin has accepted. These words were accompanied with a shabby cheque for forty pounds.—So much for Eastern munificence!

Portraits and Biographies of The Lancet.

The ensuing portraits announced are—

Samuel Merriman, M.D., F.S.A.

Ernest Mitscherlich, Professor of Chemistry in the Royal College of Berlin.

Robert E. Grant, Professor of Comparative Anatomy and Zoology in University College, London.

Benjamin Travers, F.R.S.

very faithfully yours

Saml Merriman

THE LANCET.

A Journal of Medical, Surgical, and Chemical Science and Practice, Criticism, Literature and News.

MR. WAKLEY, M.P., EDITOR. J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

VOL. I. NEW-YORK, MARCH, 1851. No. 3.

A Course of Lectures
ON
SURGICAL MANIPULATION;
EXPLAINING THE USE AND METHOD OF EMPLOYING THE VARIOUS KINDS OF BANDAGES, INSTRUMENTS, AND APPARATUS,

SO ARRANGED AS TO FORM A CONCISE INTRODUCTION TO THE PRACTICE OF OPERATIVE SURGERY.

BY EDWARD F. LONSDALE,

Fellow of the Royal College of Surgeons, Assistant-Surgeon to the Royal Orthopædic Hospital.

LECTURE III.

OF BANDAGES FOR THE FACE.

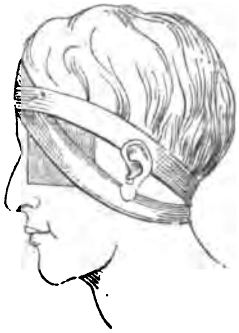
IN my last lecture I considered the different bandages required for the head, and I believe I described all those which are really of service; they are not so easy of application as many other kinds of bandages, owing to the globular shape of the head rendering them liable to slip if great care be not taken to attend to the two points I mentioned—viz., to make the portion of bandage that is placed upon the forehead pass low down near to the eyebrows, and the portion placed upon the back of the head to pass well beneath the occiput. If these two points be neglected, the bandage will be sure to slip upwards, and the whole of it become loosened.

Table of Bandages for the Face.

Common eye-shade.
Oblique circular for one eye.
Oblique circular for both eyes.
Oblique cross.
Four-tailed bandage for both eyes.
T bandage for the ear.
Double T bandage for the nose.
Nose-purse or bag.
T bandage for the mouth.
Simple bandage for hare-lip.
Four-tailed bandage for the lower jaws.
Circular roller for the lower jaw.
Mask for the face.

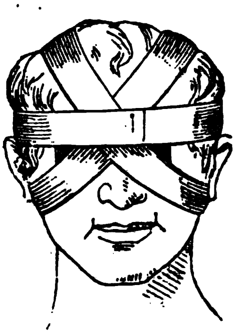
I next proceed to the bandages of the Face. There are many kinds required, some for the eyes, others for the nose, for wounds and operations of the lip, and for the lower jaw. The bandages required for the eye are employed to keep either a simple fold of linen or lint over the part, to protect it from the light, or to apply cold lotions, and to make pressure directly upon the orbit; to fix a compress or poultice. The first kind has already been described; it is very simple, and is merely composed of the circular roller passed two or three times round the head, just above the eyebrows, and then pinning a fold of lint or linen rag to the part immediately over the eye which has to be covered; it then drops down over it, and protects the organ from the light, and may be also made to contain any local application that it may be thought necessary to apply.

FIG. 15.



Oblique circular bandage for one eye.

FIG. 16.

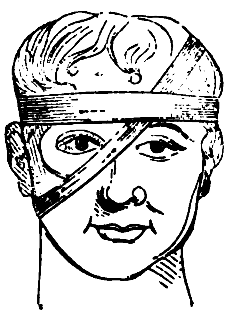


Oblique circular bandage for both eyes.

Of the Oblique Circular Bandage, for one or both Eyes.

You take a common roller, from two to three inches wide, and three yards long. You commence by passing one or two turns horizontally round the head, across the forehead, and under the occiput; you then bring it up under the ear, on the side of the affected eye, bring it obliquely upwards, across the cheek, over the compress or poultice, nearer to the inner than outer angle of the orbit, pass it obliquely upwards on the opposite side of the forehead, across the parietal bone, and then round under the occiput again, and then up under the ear as before, on to the affected eye; and repeat this for two or three turns, making the last turn pass horizontally across the forehead, and under the occiput, as was done at the beginning. If you wish to cover both eyes, you employ a longer roller, making it pass alternately over the two eyes, so as to make a kind of oblique cross, bringing the bandage on one side, from behind forwards, under the ear, and then over the eye; while on the other side you carry it downwards, over the eye, and then under the ear, finishing, as before, by one or two horizontal turns round the head. The different parts of the bandage are then pinned together where they would be liable to slip, which are over the forehead, and on the sides behind the ear or ears, accordingly as you employ the bandage for one or both eyes. It is a very good kind of bandage, and a very efficient one, if properly and neatly applied. It is useful after operations upon the eye. (Figs. 15 & 16.)

FIG. 17.

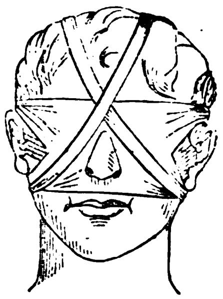


Oblique Cross for the Eye.

Composition and Use.—An oval piece of linen rag, about three inches in the long diameter, and two inches in the short diameter: cut a hole in the centre of it, of the size of the eye itself; then take a piece of bandage, a yard and a half long, and two inches wide, and sew the centre of it to the upper edge of the oval piece; while to the lower edge, obliquely towards the nose, you sew another piece of bandage, of the same width, and about two feet in length. The use of this bandage is to confine dressings around the eye, when it is not wished to keep the eye itself closed.

Application.—Place the oval piece upon the orbit, with the hole opposite to the eye; pass the horizontal band across the forehead, round the head, above the ears, to the back of the neck, and tie once, loosely, with a running knot. Then pass the oblique bandage over the forehead, across the opposite parietal bone, and the lower portion of it downwards, under the ear, and make the two ends meet beneath the occiput, and tie with a double knot, and afterwards bring the horizontal portion over them, and round on to the forehead again, and fasten with a pin, or tie them. Also pin the oblique bandage to the horizontal at the back of the neck. These oblique bandages are more firmly fixed by covering the head, first of all, with a night-cap or pocket-handkerchief, applied in the manner I previously described, (fig. 4. in the last lecture.) They can then be pinned at various points, and prevented slipping.

FIG. 18.

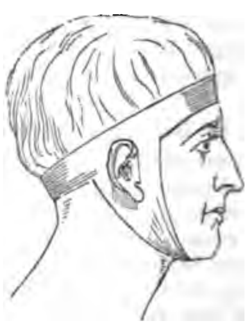


Four-tailed Bandage for both Eyes.

Composition and Use.—A piece of calico, two yards in length, and six inches in width, split into four tails, leaving a portion in the centre unsplit, of the width of the face, from ear to ear. Make a vertical slit in the centre of it, (not cut a piece out,) for the nose to pass through. It is used to keep the eyes firmly closed, and to make pressure, and to keep local applications from the becoming displaced.

Application.—Pass the nose through the central slit, then take the two upper of the four tails, bring them over the temples, behind the upper part of the ears, and tie or cross at the nape of the neck; then pass the two inferior tails beneath the ears, to the back of the neck, and cross also; then bring the ends so crossed forwards again, beneath the ears, obliquely across the cheeks and orbits, making them cross again at the root of the nose, and, finally, pass over the opposite parietal bones, and join to the portions of bandage already there. Then bring the two loose ends of the horizontal band forwards, over the ears, and tie or pin on the forehead, or cut them short, and tie behind. This bandage, being made all of one piece, encloses the eyes more completely than the double-headed roller with separate compresses.

FIG. 19.

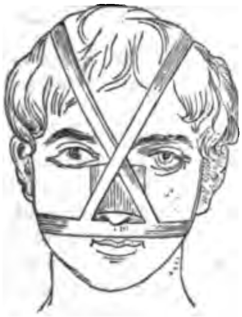


T *Bandage for the Ear.*

Composition and Use.—A piece of bandage, long enough to go twice round the head, and two inches wide; and a piece long enough to pass from one ear to the other, and from three to four inches wide, (the width, however, must be according to the extent of surface to be covered.) This piece is to be sewn to the edge of the other portion, at or near to its centre. A slit is to be made or not, for the ear to pass through, according as it may be required that the bandage may pass behind the ear, or over it so as to cover it completely. This is a useful bandage to apply dressings, either behind the ear or over it, or on the sides of the face, in front of the ear.

Application.—Place the horizontal band on the temple, and pass the ear through the slit, in the portion sewn at right angles, or let this part of the bandage cover the ear if so required, without the slit being made in it; tie the horizontal portion in a single knot on the opposite temple, then pass the other tail of the bandage beneath the chin up to the opposite ear, turn it up underneath the horizontal portion, and pin or tie. Then bring the other two ends of the latter once more round the head, and fasten. (Fig. 19.)

Fig. 20.



Double T *bandage for the Nose.*

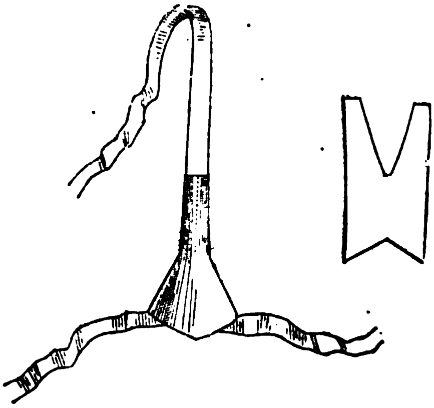
Composition and Use.—Take three strips of bandage, each two feet six inches in length, and one inch in width; sew the ends of two of them to the edge of the third, near to the centre, leaving a space of two inches between them, (more or less, according to the width of the nose.) This is a very useful kind of bandage where dressings are required to be kept applied to the nose, either in contused or lacerated wounds, and to give support to the nose in comminuted fractures. When the bones are much loosened, after severe injury, without a bandage of this kind it is very difficult to keep any application in contact with them.

Application.—The compresses, dressings, and pads, are first to be placed on the nose in the required position. The horizontal portion of the bandage is then to be placed on the upper lip, so that the two other portions may be upwards, at a point opposite either side of the nose. The former portion is then to be passed backwards, beneath the ear on either side, and the two ends to be tied at the nape of the neck. The two latter or vertical tails are then to be passed obliquely upwards, on either side of the nose, over the dressings, and made to cross on the forehead, passing over the opposite parietal bones to the back of the head; then beneath the horizontal portion, already tied in this position, and turning upwards to be pinned or tied round it. (Fig. 20.)

Nose-purse or Bag.

There are certain diseases of the nose where ulceration takes place, either from syphilis or from malignant disease, and in sloughing wounds, after bruises and burns, in which it may be necessary to keep the part covered up with dressings of various kinds or with poultices. This kind of bandage answers the purpose exceedingly well.

Fig. 21.



Nose-purse or Bag.

Composition.—A piece of linen rag, of an oblong shape, wide enough to cover the nose from side to side, and long enough to extend an inch above and an inch below it. You then fold it into two equal portions in its long diameter, and cut out two triangular pieces, the upper triangle being much larger than the lower, so as to leave a space between the two, uncut, about half an inch in length; the cut edges of the two triangles are then to be sewn together, and a kind of bag is thus formed which can be made to fit the nose closely or loosely, according to the size it is made. If required, two small holes may be cut out opposite the nostrils. This is not necessary without the patient has difficulty in breathing through the mouth.

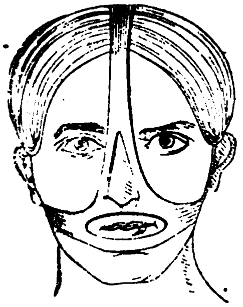
Having made the bag, you attach two pieces of bandage, an inch wide—one to the upper end, intended to pass over the head to the back of the neck, the other to the lower edge, intended to pass horizontally across the upper lip and cheeks, and long enough to tie at the back of the neck. The woodcut above shows the bandage complete.

Application.—You place the bag on the nose, and pass the vertical portion of the bandage over the top of the head, and let it hang down behind the occiput. The horizontal portion is then carried across the face, embracing the upper lip, then beneath the ears, and made to tie over the vertical portion at the nape of the neck. This vertical portion is then turned up, and pinned to itself on the part lying on the head. If it have to be worn for any length of time, it may be made of black silk, or any other material the patient may fancy.

Bandages for the Mouth and Lips.

Bandages are required to keep compresses, plasters, and dressings of various kinds, either on or round the lips, in cases of eruptive diseases, or of wounds either accidentally inflicted, or after operations for hare-lip, excision of tumours, &c. When the shape and position of the mouth are considered, and the great degree of motion constantly present in the lips, it will be seen at once that some special kind of bandage will be necessary, in order to fix them, or to keep dressings applied to the part.

FIG. 22.



T *Bandage for the Mouth.*

Composition.—Two pieces of bandage, one two yards in length, the other half a yard, each of them three inches in width. They are to be sewn together, fixing one end of the shorter piece to the outer and upper edge of the longer; a hole is then to be cut in the middle of the longer portion, of the size and shape of the mouth, and the edges to be turned in and stitched to prevent their fraying. A triangular piece is then to be cut out of the shorter portion near to its junction with the other, large enough to admit the nose.

Application.—You place the longer portion transversely across the face, placing the mouth-piece round the lips, and fit the nose into the opening in the vertical portion, and pass the rest of the band over the top of the head, and let it hang down; the two ends of the horizontal band are then to be passed to the back of the neck, and crossed over it, changing sides, and coming round on to the forehead, and there tied; the vertical band is then turned up, and pinned.

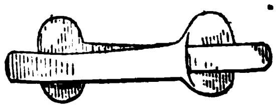
A similar bandage might be made with a transverse long portion with the mouth-piece, and two other portions sewn at right angles, to pass one on either side of the nose, as recommended for the double T bandage for the nose, (fig. 20.)

Bandage for Hare-lip, and other Operations.

I shall enter more fully into the apparatus required for hare-lip when speaking of the various instruments required for the operation. The object of all the different bandages that have been invented for this purpose is to keep the edges of the incision in close contact, the only chance of gaining union between them.

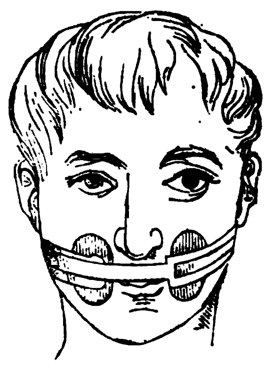
The simplest method of supporting the edges of the wound after the operation for hare-lip is with plaster and a common bandage, and two small compresses. You take pieces of good adhesive plaster,—and you must take care that it is good, (for very often the plaster wants the essential quality it ought to have—namely, adhesiveness,)—the length of these two plasters should be about four inches, or more, according to the size of the patient's face; the width of them should be two inches, but less, of course, if the operation is upon a child. You then shape them as follows:—Make the end of either piece of plaster round, of about the size of a half-crown, leaving a central strip, about half an inch in width, standing out from it, the length of the rest of the plaster; the round part is meant to be placed in the hollow of the cheek, the long strap to go over the upper lip. You then cut a slit in one of the round pieces, wide enough to admit the strip or tongue of the other passing through it, as shown in the woodcut:—

FIG. 23.



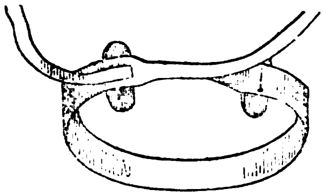
They are applied as follows:—An assistant presses the cheeks forward towards the angles of the mouth; you then place the two circular portions of the plaster in the hollow of the cheeks, one on either side, so as to allow of the central strip being placed over the upper lip; seeing that the plaster has taken a firm hold, and the assistant keeping his finger on it, you pass the strip of the one side through the slit made in the other, and then pulling them both forwards as far as they will come, you place them flat upon the cheek, and see that they adhere firmly. But the plasters require more support than the mere adhesiveness gives them,—and this is gained by placing a small, firm compress on them in the hollow of the cheek, and then passing a bandage over them for one or two turns, making it keep its horizontal position by slitting it opposite the ears, and fitting them into the opening so made. You pass the bandage over the mouth first of all, and afterwards, with a pair of scissors, remove as much as may be necessary opposite to the lips, to allow the patient to breathe and to take his food.

FIG. 24.



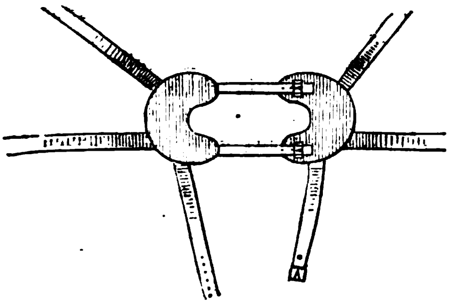
Another mode of applying the bandage over the plaster is by taking a piece of common roller, and fastening the small pads to it with pins, and then slitting one side of the bandage, and passing the other end through, so that when the two are pulled upon, the pads are approximated, and the cut edges of the lip brought closer together. The ends of the bandage are then crossed at the back of the neck, and tied there, or else brought round to the forehead and tied. Fig. 25 represents the shape of the bandage. Fig. 24, its application.

FIG. 25.



The following bandage consists of two pieces of firm leather, of a size to fit into the hollow of the cheek, the edges of which, looking towards the mouth, are so shaped on either side as to leave the horns large enough to grasp the corners of the mouth, but not extending sufficiently far to meet in the median line of the lips.

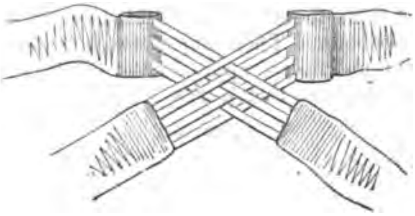
FIG. 26.



M. Gerdy's bandage for Hare-lip.

These four portions, or horns, as they may be called, are connected together, when fixed, by means of two small straps: one passing over the upper lip, and fastening the two upper ones; and the other passing below the under lip, and fixing the two inferior horns. To the under part of each cheek-piece, there is a small pad fastened, which fits into the hollow of the cheek. To the outer edge of each cheek-piece, namely, the edge which looks towards the ears, there are two other straps fastened, one to the upper angle, the other to the lower; making four altogether. The two upper of these straps are passed over the ear, while the two lower are passed beneath the ears, and the two ends of each are fastened at the back of the neck. You then have the mouth surrounded by the apparatus, and kept in the horizontal position by means of the straps I have described, and the edges of the wound are approximated by means of pulling upon the two labial straps, which tell upon the pads placed in the hollow of the cheeks, and so take off the strain upon the needles, by tending to pull the angles of the mouth towards one another. There is one other strap, the object of which is to prevent the apparatus from slipping upwards: it is attached to the inferior edge of one of the cheek-pieces, passes beneath the chin, and is made to fasten to the inferior edge of the opposite cheek-piece. (Fig. 26.)

FIG. 27.

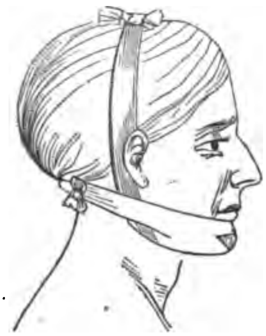


M. Thillage's bandage for Hare-lip.

This kind of bandage is more complicated than the last, but it is more easily obtained, if you will take the trouble to make it, as it is made of tapes and compresses, and of a common roller. The action is the same as the last—namely, by pulling upon small pads, which are placed on either side of the lip, which, when brought together, approximate the edges of the wound. It is made as follows:—You take the small pads of lint, firmly folded, and of a size to admit of being placed on the upper lip just above the angles of the mouth; to the anterior edges of these pads you attach, to the one, say the right, four small pieces of tape, leaving a space of the width of the tape between their insertions; to the other pad, namely, the left, you sew three pieces of tape of the same width, and leaving the same distance of space between them; to the outer edge of the small pads is attached a piece of narrow roller or tape, about two feet in length, which is meant, as you will presently see, to pass round the head. The small tapes are then passed through the interspaces, so that the three may as it were interlace the four; the loose ends, after being so passed through, are then sewn to two other pieces of bandage. (I should mention that these small strips are not more than three inches in length.) When you apply it, an assistant places the two pads on the upper lip, one on either side of the wound, while you pass the two pieces of bandage connected with them over the cheek on either side, (having placed a compress in the hollow of the cheek,) then behind the ears down to the occiput, and having crossed them, bring them forwards over to the forehead, and fasten them in front. You now take the two other pieces of bandage, and draw upon them, which will necessarily pull upon the pads on the lip, and bring them close to one another; for as the tapes cross one another by being interlaced, they will be drawn by the opposite piece of bandage—namely, as the bandage held in the left hand passes under the patient's right ear, it will pull upon the pad on the left side of the lip, and that held in the right hand passing under the patient's left ear will pull upon the pad on the left side of the mouth. The two bandages are then passed to the back of the head like the other two, and brought up to the forehead and pinned there. The description of this bandage is rather difficult to understand, but will be assisted by reference to woodcut 27.

The above kinds of bandages answer the purpose exceedingly well. I do not suppose, however, they would be employed much, except by those who invented them; for I fear that others might think them too complicated as well as difficult to obtain. These objections, however, go no further, and do not apply to the effectual action of the bandages themselves.

Fig. 28.



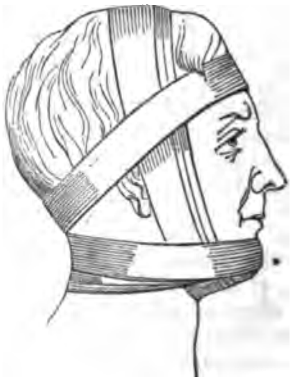
The Four-tailed Bandage for the Lower Jaw.

You may require a bandage to keep the lower jaw fixed either after dislocation or after fracture. You may also require to keep dressings applied in the treatment of wounds, or ulcerations, or eruptions, which are tedious of cure, as in the case of the disease called sycosis menti. To obtain these ends, you employ the four-tailed bandage. You take a piece of linen rag, four inches wide and a yard long, and split it at either end, so as to form four tails, leaving a central portion unsplit, of about five inches in length. In this central portion you cut a small slit, large enough to admit the chin. When applying it, having placed the dressings on the part, you fit the chin into the opening made to receive it, so that one part of the central portion lies on the chin below the lower lip, while the other lies beneath the chin, pressing against the under surface of the jaw. You dispose of the four tails as follows:—The two superior are passed, one on either side, beneath the ears, and tie at the back of the neck, while the two inferior are carried upwards behind the ears, and tied at the top of the head. If the bandage is used merely to confine dressings, you make but little pressure; if to fix the jaw, as in cases of dislocation or fracture, you then pull upon the tails with sufficient force to keep the bone from slipping forwards or downwards. (Fig. 28.)

The Single Circular Roller for the Lower Jaw.

You may fix the lower jaw with a single roller, and may apply a great force by this means, so as to render it quite immovable. You take the common single-headed roller, about two inches wide, and six yards long. You begin by passing it two or three times round the forehead and back of the head. You then pass it under the chin, and bring it pu on the opposite side by the ear, carry it over the top of the head round to the opposite ear, repeating this for two turns; you then make it pass round again to the back of the head, bring it round beneath the ear, along the side of the face, horizontally across the chin, under the opposite ear, again to the back of the neck, and then forwards over the chin again; and when the bandage comes again to the neck, you terminate it, by passing it once or twice round the forehead, in the same way as you began. It is a good kind of bandage, and effectual in its action.

Fig. 29.



Sometimes a double-headed roller is employed instead of the single, in which case you of course surround the two sides of the head and chin at the same time, by passing one of the heads of the bandage on either side. It possesses no advantage over that I have just described.

The Mask for the Face.

This bandage, as its name implies, is merely a mask. It is a useful bandage in burns of the face, when it is wished to keep local applications in contact with the whole of the face, and to leave the eyes, nose, and mouth free. You take a piece of linen rag, of the size of the face, and cut holes in it opposite to the eyes, nose, and mouth, large enough to fit them, leaving the portion through which the nose passes attached at its upper part, so that it may cover this organ when placed on it. You take six strips of bandage, and attach two to the upper angles of the mask, sewn at right angles, so as to tie on the top of the head, two in the centre of the edge, to pass behind the neck, and two to the inferior angles, to pass beneath the chin. The various openings for the nose, eyes, and mouth should be sewn at their edges, if you wish to make the mask more complete, to prevent their fraying. Its application is simple: you place the mask on the face, fitting the openings made, of course opposite to the eyes, nose, and mouth. You then tie the two middle bands, by passing them backwards over the ears, and fastening them at the nape of the neck; or cross them, and bring them forwards, and tie them under the chin. The two inferior ones are then passed beneath the chin, and crossed upon one another, and turned backwards, to tie at the back of the neck, which will prevent them slipping forwards. Finally, the two superior ones are tied at the top of the head, more towards the posterior than the anterior part.

Lectures
ON THE
PHILOSOPHY OF MEDICINE,
DELIVERED IN THE
Lecture-room of the Literary and Philosophical Society, Newcastle-on-Tyne,

By ROBERT M. GLOVER, M.D.

LECTURE III.

Calculus of probabilities; examples of its application. Empiricism, dogmatism, and eclecticism; false eclecticism.

In speaking of the application of the calculus of probabilities to medicine, it cannot be expected that I can possibly give a complete exposition of the subject. Such an attempt would be far beyond the limits of this course. Besides, I do not pretend to that acquaintance with mathematical science which would enable me to treat such a subject. The calculus of probabilities itself belongs to the very highest branches of mathematics; and none but a most profound mathematician could master its abstruse theorems. My object here is limited to endeavouring to show the place and value of numerical results in medicine. The first portion of this lecture is simply to be regarded as an abstract of part of the work of M. Gavarret, to which I refer for a full exposition of the subject.

There are questions, not soluble by reason or the ordinary rules of logic, but where this kind of calculation must be employed. For example: suppose an urn to contain an unknown number of black and white balls, and we draw from it, a thousand times, one ball at a time; and from these thousand chance drawings there issue 900 white balls and 100 black ones. After such a result, no one could hesitate in affirming the white balls to be necessarily more numerous than the black in the urn; and that if all the black balls were put back into the urn, in a thousand more similar drawings, there would still come out more white than black. But this is the limit of logic in such a question. Suppose we were to attempt to go further, and to say, the statistical result shows that in ten balls drawn there are nine white and one black, *in what limits of error* can the relation of the number of white to the total number of balls contained in the urn differ from the relation $\frac{9}{10}$ furnished by the experiment.

An urn contains an unknown number of balls, white and black; we draw a ball twenty times successively, completely at chance; of those so drawn, eighteen are white, and only two black. Here, as in the preceding example, there is the proportion 18:2, or 9:1. The only difference, and it is important, is in the number of the drawings. Ought we to infer from this that necessarily the urn contained at first more white than black balls? Some might rashly form such a conclusion; but a man of good judgment, and cautious, would not consider the number of observations sufficient. Suppose we were to go a little further, and ask an observer how many drawings he would consider necessary, in order to enable him to conclude that the statistical result, represented nearly exactly, and *within given limits of possible error*, the contents of the urn: it is clear no one could answer this question from the ordinary rules of logic.

Statistics can furnish important generalizations on the relations which unite effects with the causes which produce them; but similar results are always liable to a certain possibility of error, and these errors, which may be neglected when the number of observations is very great, increase in the inverse ratio of the number of facts; as the latter become fewer, the risk of error is greater; so that there is a limit beyond which the indications of statistics may be neglected.

There will always be the following difficulties in the use of statistics:—

"1. A statistical result being given, to what error are we exposed in taking the relation which it furnishes for the true expression of the influence of a particular treatment employed upon the disease under observation?

"2. Within what *limits of possible error* does the influence of a particular treatment, deduced from statistics including a given number of observations, indicate the results which we may have the right to expect afterwards from the employment of the same therapeutical method in the same disease?"*

If we could not answer these questions we should only embarrass ourselves with a cumbrous and unwieldy instrument; but these questions are answered by the doctrine of probability.

It is principally in therapeutics that advantages can be derived from the calculus of probability; and here, too, its application is more necessary than in pathology. Andral, in one of his lectures, said, "With thirty or forty observations you may establish the diagnosis and prognosis of a disease; but many years of researches are often necessary to arrive at a satisfactory result in therapeutics."

The calculus of probability is divided into two branches—the calculus *direct*, and the calculus *inverse*. In the former we can always get to know all the circumstances favourable and opposed to the event with which we are engaged; and, in consequence, determine directly its probability. If we were confined to this branch, we should not be able to do much in this way in medicine; for who would dare to lay down, *à priori*, all the circumstances favourable or opposed to the cure of any patient subjected to a particular line of treatment? But the calculus *inverse*, founded solely on the *law of great numbers*, furnishes rules for determining the probability of any event from the observation alone of the frequency of its repetition in a certain number of trials, without our being able in any way previously to assign the circumstances favourable or opposed to it. Its principles permit us, after the determination of the conditions which should be satisfied, that the facts may be comparable, and enter into a statistical table, to undertake the solution of the following problems:—

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* Principes Généraux de Statistique Médicale, pp. 51, 68.

"1. To determine the true influence of a given mode of treatment in a particular disease.

"2. To class, according to their influence, the various modes of treatment recommended in the same affection."

In a statistical point of view, facts are divided into two great classes—1. Facts of *constant chance;* 2. Facts of *variable chance.*

"1. *Facts of constant chance.*—An urn contains a number, known or unknown, of white and black balls. We agree to make successive drawings of one ball, and to replace, after each drawing, the ball taken out, by another identical in colour and dimensions. Hence, the total number of balls contained in the urn, and the proportion of the white to the black, remaining always the same, it is evident that the reason we have for believing in the extraction of a white ball, at the beginning, the middle, and the end of the drawing, remains the same. The probability of the extraction of a white ball is then *invariable*, during the whole of the trials. The extraction of a white ball is in this case a fact of *constant chance.*

"2. *Facts of variable chance.*—An urn contains a number, known or unknown, of white and black balls. We agree to make successive drawings of a ball, and not to replace it, whatever be its colour. In this case, the total number of balls contained in the urn, and the proportion of the white to the black, vary at each trial; and it is evident that the reason for believing in the extraction of a white ball, and, in consequence, its probability, will not be the same at the beginning, middle, and end of the drawings."

In which of these classes ought questions respecting the probability of the life or death of a patient under treatment, to be ranged. Pathological groups may be formed, which the practitioner may consider identical to a great extent as regards treatment; but it is evident that, in general, patients to whom remedies are administered present very different chances of recovery. The greater number of facts of this kind should then be ranged in the second class. The law of great numbers developed by M. Poisson furnishes the means of investigating the probable results of treatment in such cases.

The first great requisite in facts of *variable chance*, submitted to calculation, is, that they should be sufficiently alike to be comparable; for this, their identity in an absolute sense is not necessary, and in medicine would often be impossible. It is, however, necessary, for the events to be produced by an invariable assemblage of possible causes—invariable in its totality. For instance, when we consider the causes which may produce a shipwreck, we shall find them to belong to two great classes of possible causes. On one side we have the meteorological causes, and the character of the bottom of the sea, configuration of the coast, &c.; on the other, the construction of the vessels, and the skill of the sailors who navigate them. These causes will differ in different latitudes and countries, so that it might not do to infer from the statistics of the German Ocean, the probable frequency of the shipwrecks in the Mediterranean, for instance. But although two shipwrecks in one sea may hardly ever be identical in the circumstances which accompany them, still these varying circumstances may be brought about by all possible combinations of the same producing causes; they may depend on a sum of causes invariable in their assemblage as a whole.

The above summary may give some idea of the principles upon which the doctrine of probabilities rests. I shall now give three examples, selected and condensed from the work of M. Gavarret, with the view of showing, 1st, the value of great numbers of observations in statistics; 2nd, the use which may be drawn from a knowledge of the limits of error furnished by the calculus of probabilities; and 3rd, the erronous inferences which may be drawn from mere statistical results, unless corrected by the rules of the calculus.

1. To show the necessity of obtaining as many facts as possible: suppose it was wished to ascertain the mean mortality in a particular disease, and that we had observed thirty patients, of whom twelve died; this would give a mortality in the proportion of 400: 1000. But if we were to go further, and the next result were more favourable, so that out of twenty patients only three died, adding these numbers to the former, there would be a mortality of 15 in 50, or 300: 1000. But if, instead of this favourable result, we had got in ten other cases eight deaths, adding this unfavourable series to the first, there would be twenty deaths in 40, or 500 out of 1000; showing the necessity of having numerous facts, since, if the inferences are drawn from small numbers, the errors may be enormous.

Suppose, however, the original number were 300, instead of 30, and the same proportion observed in the first series—viz., a mortality of 12: 30, or 400: 1000, then the possible error from stopping at this point would be much diminished, since the addition of the favourable observations would give 123 deaths out of 320, or 384 : 1000, the addition of the unfavourable series instead, 128 : 310=413 : 1000—that is to say, the differences are much less. And if we make the first series = 1200 observations, and maintain the same proportion, 480 deaths, or 400: 1000, the addition of the favourable series would give the proportion, 396: 1000, and that of the unfavourable, 403 : 1000—proportions which are nearly the same.

2. To show the use which may be made of *limits of error*. In France there were born, legitimately, during the year 1825, 468,151 boys and 436,444 girls, in 904,594. In this case, the mean chance of the birth of a boy, represented by the relation of the number of male children to the total number of births, = 5175 : 10,000. But in taking any relation furnished by statistics as the correct representation of what is to occur in fu-

ture, as in referring from this result in one year the probable future result in France, the doctrine of probabilities teaches us that we are liable to commit an error; and by making use of the proper formula, which enable us to determine this error, we shall find it = 15 : 10,000; and as the error may be either *plus* or *minus*, we may assume the chance of the birth of a male child in France to be between 5190 : 10,000, and 5160 : 10,000, reasoning on the data furnished by the returns of 1825.*

3. To show how little the simple numerical method can avail without the aid of the calculus of probabilities as a necessary supplement, let us take the following example. M. Louis, in his researches on bleeding, has stated his views as follows:—

"In any epidemic whatever, (says he,) let 500 patients, taken indiscriminately among those who have been attacked, be submitted to a particular treatment, and let 500 others, taken in the same manner, be treated differently; if a greater number of the patients die in the first class than in the second, ought we not consider the treatment in the latter cases superior to that pursued in the other?" The conclusion, he goes on to say, would be rigorously exact.

So that M. Louis considers the mean mortality furnished by a statistical table to be the exact and rigorous expression of the effects caused by the treatment tried, and from which we are entitled to look for a similar result in other future cases. Gavarret observes upon this—"To say that two observers have arrived at different results is absolutely to say nothing; two such statements will never coincide, the disease and the treatment remaining the same. Whilst we do not specify the extent of the difference determined between the mean mortalities obtained, it will be impossible to know if the variation surpasses, or does not surpass, the *limits of possible errors* in the conclusion *à posteriori*, and, in consequence, to appreciate the relative value of the modes of treatment employed."

Suppose, in an epidemic, 500 patients, taken by chance, are submitted to a particular treatment, and 500, similarly taken, to another kind of treatment, and that there were 100 deaths and 400 cures in the first set—in the second, 150 deaths and 350 cures. This would give, in the one case, 20,000 deaths in 100,000, in the other 30,000 in the same number, leaving a difference of 10,000 in 100,000 patients. Calculating according to the rules of the doctrine of probabilities the possible limits of error in this case, we shall find them expressed by the number 7694 in 100,000, which, being below the difference, would, in reality, give a superiority of the first treatment over the second. But if, according to the result of the second plan of treatment, we had 130 deaths instead of 150, there would be 26,000 deaths in 100,000 cases, or a difference between the two modes of 6000 in 100,000. Reasoning after the same principle, we should still prefer the first treatment to the second; but if we calculate again the limit of possible errors, we shall find it equal to 7508 in 100,000; and, as the difference between the two methods is inferior to the *limit of possible errors*, the varieties in the results of the two modes of treatment do not entitle us to conclude anything positive, or to prefer, on absolute grounds, the one method to the other. Not that the one may not be better than the other, but simply because the differences determined between this result in the 500 cases observed do not authorize a positive conclusion on the subject.

But let the experience of the observer be augmented; and 1000 cases accumulated on each side. According to the first plan of treatment, we should have 200 deaths and 800 cures; and according to the second, 260 deaths and 740 cures. The first would give, as before, a mortality of 20,000 in the 100,000, the second of 26,000 in the 100,000; the difference between the two numbers being 6000, and the limit of possible errors, 5306; it is plain that the first line of treatment is superior to the second, and that 1000 cases have established a superiority which 500 could not.

Suppose the results of two modes of treatment approach nearer; the mortality in the former is still inferior to that of the latter, but not so much so as before. In the former case, we have 220 deaths in the 1000; in the latter, 240, or 22,000 in the one, and 24,000 in the other, on 100,000; the difference being 2000 in favour of the treatment in the former. Now the limit of possible error in this case, is 5321 on 100,000, or superior to the difference determined. There is therefore no particular ground to prefer the one treatment to the other; as there is no proof of positive superiority.

It would be easy to pursue the subject, and to show how statistics, without attention to the rules of the doctrine of probability, may lead to positive error; but enough has been said to give an idea of the subject.

It would be as unreasonable to expect medical men to master such mathematical doctrines as the calculus of probabilities, as to expect mathematicians to be profound physiologists or chemists, *non omnia possumus omnes;* but statistical results in medicine may be submitted to the calculations of mathematicians, and some medical men might be found, like M. Gavarret, to make a speciality of the application of mathematics to medical subjects; since this is far from their only use in the various branches of medical science.

Some marked general distinctions have always existed as to the modes of cultivating medicine preferred. Nor is this to be wondered at, since there may reasonably be considerable differences of opinion regarding the degrees of weight respectively due to the various methods which may be employed. At a very early period there were some who trusted too much to speculation, and to the introduction of ideas drawn hastily from vague philosophical analogies, and even on leavoured to found practice on conjecture rather than on experience. There were others who trusted solely to observation; and others, again, who, like the Hippocratic school, by no means neglected observation, while at the same time they were not averse to philosophical speculation, or to treatment founded upon what seemed a rational basis. These divisions in the schools have existed more or less distinctly down to the present time. We have now, as formerly, professed rationalists, empirics, and eclectics. The dispute between the ancient empirics and rationalists, or rather dogmatists, is admirably stated in the pages of Celsus.

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* The calculus of probabilities is so dependent [illegible] theorem, that it is impossible here to give any idea to the general student of the mode in which its principles are established.

Some of the ancient *empirics* merely insisted upon the necessity of observation, in opposition to the exclusive fondness of the dogmatists for speculation, and seem to have proceeded on the true principles of the inductive philosophy.—Others, and especially some of whom Celsus speaks, appear to have really opposed even anatomical and physiological researches as unnecessary. About the middle of the third century before Christ, there existed a school called empirical, whose doctrines are worthy of some attention. After the time of Hippocrates, the professors of medicine abandoned too soon the route of observation which he had followed, and endeavoured, from the few anatomical discoveries which were gradually made, to frame speculations respecting the state of the functions in health and disease. But these speculations were not warranted by either the number or the weight of the observations on which they were founded. And as these hypothetical doctrines were often contradictory, they led to disputations and controversies somewhat similar in kind to those fierce logomachies which agitated the schools of Europe in the middle ages. The same kind of sophistry was employed in the dispute. Even therapeutics were not exempt from this abuse. Some sensible men then saw that this wordy war was not likely to cure disease. They founded the so-called empirical school of antiquity, which principally flourished at Alexandria. What lent not a little aid to the efforts of this school, was the discovery of numerous new remedies about that time, owing to the immense commerce carried on under the Ptolemies. It seemed better to these empirics to ascertain the powers of new remedies than to listen to the disputes of the dogmatists. The prevalence of the sceptical philosophy about the same time helped perhaps to extend the sway of empiricism; the first empirics began by paying great attention to symptomatology, without troubling themselves much about the nature and causes of disease. They subjected the art of observing to fixed and invariable rules; and some of the formulas for observing given by them are not very dissimilar to those professed in recent times. They showed that cases must be observed many times and under varied circumstances before their nature can be known. Although they neglected seeking for causes, they laid great stress on a judicious selection of the phenomena which should be made the subjects of investigation, for they saw that in many cases it was unnecessary to observe as far as the minutest symptoms. There must indeed be a limit to stop at; and, if slight matters be made of too much importance, those which are really essential are not unlikely to be neglected.* They endeavoured to distinguish the symptoms according to their importance, and gave the name of theorem to the general idea of the disease, which was to be kept in the mind. They described three different kinds of observation—that made by chance, or more methodically, or from analogy with other diseases. And, as every one is not in the position of being able to make a sufficient number of observations himself, in order to apply his experience to the cases of disease which he may meet, he must seek for information when his own knowledge is deficient, in the recorded experience of others. In such a case, he must take care not to trust too much to the evidence of one writer, and not to apply to one disease observations made on a case not exactly similar. He must pay attention to the modifying effects of climate. Finally, to show more completely the moderate and reasonable views of the ancient empirics, the following sentences are quoted:—"He who knows how to profit by the observations of others, with all the requisite prudence, and who possesses history, does not need so much to observe for himself. In the same way as we can, from the description given by another, acquire a knowledge of a country, almost as if we ourselves had traversed it, so he who knows how to draw properly from the writings and observations of others, learns more, in the course of his life, than if he had observed the diseases themselves, during the course of many centuries."†

I have been led to speak rather fully of the ancient empirics, because in modern time there has existed, and perhaps still exists, an absurd exaggeration of the empirical school, which may best be understood by stating that it is composed of men who may be known by the presumption with which they arrogate to themselves the title of "*practical men*," *par eminence*. "*Lucus a non lucendo*." Observation is at best only the brute matter of science. Nothing is less practical than a mere fact, until the mind works on it, and gives it a place and a value according to the principles of the intelligence itself. Now, in order to be practical in the correct sense of the word, it is not necessary for a medical practitioner to be distinguished for original discoveries, profound literary knowledge, or scientific research. The modest and quiet practitioner who holds the even tenor of his way, and avails himself of the admirable treatises on the various branches of medicine which abound in the present day, combining the recorded experience of others with his own, and correcting mutually the one source of knowledge by comparison with the other, may no doubt frequently be as useful a practitioner as those more distinguished by fame and fortune. There can be no intention to reflect on this class; but in our profession we have had, and perhaps still have, some who usurp the title of *practical*, because they are neither educated, nor intelligent, nor studious, nor scientific, nor possessed of a single efficient quality, except the art of palming their impudent pretensions upon the ignorance of the public. These men are constantly inveighing against *theory*, by which they mean generalization and the use of the intellect. False theories may deceive us, but true theory cannot. What is really true in theory can never be false in practice, or our Maker has deceived us, and taught us to arrive at false conclusions through the legitimate working of the intellect. When Davy was applied to by the Admiralty to suggest something that would protect the copper sheathing of ships, and he recommended the putting on pieces of zinc over the copper, in order to prevent the destruction of the copper, he was found to have succeeded so far, but the marine animals and certain substances which it was the object of the sheathing to keep off, again clung to the ships. This might be pronounced a failure of theory, but such a conclusion would be erroneous. Davy had not been informed of the real cause of the utility of the copper, which depends in great part on the very solution of it by the sea water which he was charged to prevent. If all the circumstances of the case be taken into account, a true theory will not fail in practice. Cobbett, with his stern satire, says of a similar class of self-styled practical men in politics, that by a *plain practical man* he understands one "who is only fit to make brooms, or mend a pair of breeches."[*] No class has probably contributed more to the reaction in favour of quackery than the self-called practical men.

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* Some formulas of observation are too minute for the reason above specified. It seemed hardly requisite for me to give any general formulas for observation. The following is a summary of M. Bouillaud's directions for hospital observations:—

1. Name, age, sex, constitution, place of birth, actual residence, day of entrance into the hospital, name of the ward, and number of the patient.

2. Previous habitual state of health, and sometimes of the constitutions and diseases of the relatives, ascending, and descending, (if any;) regimen and remedies previously used.

3. Description of the actual state of the patient.

4. The course of the disease; and the treatment from the day of admission till cure, death or dismissal.

5. Description of the autopsy, if any.

All these heads of course involve numerous details, into which it is not necessary to enter.

See Essai sur la Philosophie Medicale, p. 149 et seq.

Admirable rules for observation are contained in Professor Bennett's Clinical Lectures, published in recent numbers of the *Edinburgh Monthly Journal*.

† Histoire de la Médecine (Sprengel) Traduit par Jourdan, t. I., p. 475.

A recent learned writer, M. Renouard, has brought the claims of the empirical method in therapeutics very prominently forward.[†]

M. Renouard justly lays great stress upon our keeping always in view the final object of medicine, which is to prevent and cure disease. He seems evidently to accuse medical men of having sometimes lost sight of this, and having indulged in researches which either did not bear sufficiently directly on this great end, or having forgot what ought to be the ultimate aim of all their labours. Certainly pathology has sometimes been cultivated as if it were not a means to an end. This is from a kind of transference of association, such as makes the miser who has begun to accumulate, perhaps for some great or good end, forget all in his gold. M. Renouard seems to have struck on what is rather an evil in the present day. I do not agree with him in regarding therapeutics as so very little dependent on physiology and pathology; but certainly it has been too much regarded, especially in France, as a subordinate science. At present it is especially important for medical science to acquire real power, and every attempt to sink the therapeutic in the pathological branch should be discouraged. The quacks better understand the public feeling on this point. They do not talk much of their discoveries of the nature of disease. It is the means of cure chiefly which they boast of.

M. Renouard maintains that there is one universal criterion of truth in medicine—"the supreme judge of the value of the ideas and discoveries connected with this science is," in his eyes, "nothing else but the therapeutical proof;"—the cure of disease.

He maintains that medicine, as regards its more important branch—therapeutics—owes little to rationalism, much to gradual observation and experience, and the slow generalization of the results observed.

"At a first view," he says, "the medical practice of primitive times might appear gross and little founded on reason; but when we consider it more carefully, and look with unprejudiced eyes on the motives which directed it, we find that far from being deprived of reason, it was founded on a principle of incontestable evidence, which we can formularize thus:—Every treatment which has cured a disease ought equally to cure the diseases analogous to the first."

Of the extreme value of pure observation in therapeutics there can be no doubt; but rationalism also has an extreme value. Observations are often deceitful. When no relation can be traced between the giving of a remedy and the disappearance of certain symptoms, such a fact is of very little value as a guide to practice. The establishment of such a relation is, according to the precepts of Bacon, of the greatest importance. It appears as if M. Renouard had overlooked, in his extreme laudation of simple observation, the necessity of weighing facts as well as counting them. The *post hoc propter hoc* argument has frequently been the bane of medicine.[*] For the weakness of facts unconnected by reason, nothing but great numbers—the force of statistics as already stated—can make up. But numbers of homogeneous facts are not always easily got together. The lists of cures by all remedies which have been published from time to time, serve to show the danger of placing such trust in the empirical method as M. Renouard is inclined to.

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[*] There is a ludicrous description of one of this school in "Roderick Random." When the the hero is examined at the College of Surgeons, two of his examiners have a dispute as to whether wounds of the intestines are necessarily mortal! One of the disputants exclaims, "But, sir,—the reason of the thing!" · "A fig for reason," says his opponent; "give me ocular demonstration!" I quote from memory.

[†] Lettres Philosophiques et Historiques sur la Medicine au xix. siècle. Par le Docteur P. V. Renouard. Paris, 1860.

[*] Tenderden Steeple and Goodwin Sands!

And as I have already advanced views a good deal opposed to those of Renouard, I shall not go over the ground again.

As a pure example of dogmatism in modern times, I would cite the theory of Brown, ascribing diseases generally to a diminution of vitality, which should be counteracted by stimulants; and the comments of the Italian school, Rasori and others, on this doctrine. Such speculations might be very well when put forward merely as hypotheses, but when they are made the basis of plans of treatment, they cannot be too severely censured.

On the whole, then, the true eclectic school seems most worthy of being held up for example and imitation—the school which has preserved the traditions of careful observation, but has not failed to avail itself, like Hippocrates, from time to time, of the resources which Philosophy and Science have placed at its disposal, which does not disdain hypotheses, and is not deceived by them. Not that false eclecticism, which is afraid from mere weakness of mind, to discriminate and pronounce between truth and error; and is ready, for the sake of being all things to all men, to say, like Sir Roger de Coverley, "that much may be said on both sides." Between this false eclecticism and quackery, there is but one step. Afraid to give a bold and manly opinion, it will speak with a coy and tender regard of homœopathy, hydropathy, and every form of quackery.

This affectation of moderation is often employed to get a character for wisdom, by minds too feeble to come to a proper conclusion by separating and weighing evidence. But it is our duty not to trifle with the serious duties entrusted to us. There are medical men who express too great doubt in the power of their science, from a conscientious regret, that, much as it can do for the relief of human suffering, it still leaves so much unaccomplished, and who forget the great results which have been attained in the ardent desire of more actual power. And there are others apt to talk of the inefficacy of medicine from a wish to please the public, ever ready to sneer at their greatest benefactors. But the too great scepticism of the one, and the treachery of the other class, will soon be sunk in the brilliant results which legitimate medicine is about to yield. More, probably, has been gained in the present century than in the whole previous history of medicine. The difficulties have, to a great extent, been overcome; the obstacles to be encountered are known, and can be avoided; the physical sciences can afford powerful aid; the study of disease itself has been carried to a wonderful pitch of exactitude. Therapeutics are fast assuming a similar character. And soon the whole world will cry,

"Io, Io, Pæan; as of old
When Python fell"

at the triumphs of the healing art.

# NOTES
FROM
A COURSE OF LECTURES
Delivered at St. Thomas's Hospital,

BY GILBERT MACKMURDO, ESQ., F.R.S.,
Surgeon to that Hospital,
and to the Royal London Ophthalmic Hospital.

Reported by his Son.

LECTURE XIV.

Treatment of Cataract: the Operation of Extraction.

GENTLEMEN.—We are often asked, Is there no truth in the various statements respecting the cure of cataracts without operation? Our answer must be one and the same always—viz., that where a real cataract exists, we know not of any efficient mode of treating it than by operation, and that the cases which have given rise to such assertions have been either those wherein some lymph, which had been effused in front of the capsule, has been absorbed under the influence of mercury and antiphlogistic measures; or where, after the capsule had been ruptured by accident, the lens has, in the first instance, become opake, forming traumatic cataract, and has subsequently been absorbed by the action of the aqueous humour.

Some surgeons have stated, that by means of counter-irritation they have effected the removal of cataract. M. Gondret, whose name I mentioned to you in a previous lecture, when speaking of amaurosis, entertained this opinion, and when he was visiting our Opthalmic Hospital, said that he had succeeded in curing many cases by such treatment; but my colleagues and myself considered that he might probably have got rid of lymph, or spurious cataracts, by such treatment, but not the lenticular or capsular cataract.

In this country, unhappily, we have constantly some charlatan starting forth, who robs the public very largely for a time, on account of the boldness of his pretensions, and many anxious patients, clinging to false hopes, flock to him, and pay him liberally, until at length they become wearied, and revert to their regular medical attendants. This happens to us all, but particularly to opthalmic surgeons.

A considerable difference of opinion exists as to the desirableness of operating on a cataract where the other eye of the patient is as yet perfect. If the cataract has formed slowly, insidiously, and without pain, and if the second eye is apparently perfectly sound, I am not in the habit of proposing an operation; although when earnestly requested to perform one, I have consented, and the patient has subsequently seen well with each eye, by the assistance of suitable glasses; but very generally the second eye exhibits some defect, and in such a case we ought to remedy the disease in the first, before the patient has entirely lost the use of his second eye. So is it also with traumatic cataract from concussion; I have frequently seen the second eye become slowly cataractous, at a considerable period after the accident had occurred, which gave rise to the formation of the first cataract.

When a patient has two cataracts of nearly equal density, we are sometimes asked to operate on each eye on the same day. I have done this often with capsular, but never with lenticular cataracts; although when I was living in Paris, nearly thirty years ago, I continually saw M. Roux extract, with great skill, two cataracts from the same patient at one sitting; but from my observations at that time, I was convinced that this was an undesirable practice. In this country we are content to take one eye under treatment by operation at a time in such cases; and then, if inflammation should supervene, or, by any untoward circumstances, the eye should be damaged or lost, the second eye may be operated on successfully at a future time.

When we have decided to operate on a patient, we should not keep him waiting with anxiety for a longer period than necessary; and we ought therefore to perform our operation as soon after he has given his consent as the case will admit. We prefer dry weather for these operations, and even the depth of winter, if it be dry, is better than the foggy damps of October and November, which give rise to rheumatic ophthalmia. It is highly necessary to attend to the general state of the health before we proceed to these operations; the preliminary treatment which would suit one patient might be destructive to another, and the plethoric and the anæmic, the excitable and the languid patients, must of course be prepared in accordance with the indications that they severally present.

We speak generally of three kinds of operations for cataract. 1st, Extraction; 2nd, Depression, or reclination; and 3rdly, the operation for Solution of the lens. In some cases we have to modify, or even combine, two of these modes. Thus we sometimes produce absorption of the soft exterior of a lenticular cataract, and afterwards extract the remaining hard portion with facility, or we depress the remaining hard nucleus in other cases, after having previously produced some absorption; and again, we have another process called "drilling."

Simplicity in our choice of instruments is very desirable. It has been a great evil in our profession that surgeons are constantly altering the shapes of instruments instead of being content with those which have been found valuable and efficient by their predecessors, whereas it would have been much better for them and their patients if they had chiefly endeavoured to acquire great manual dexterity in the use of those already known. I do not wish, however, to be understood as wishing to oppose real improvements in instruments. This is especially true with the instruments used in ophthalmic surgery. Those who have succeeded best have been content with knives and needles long known, whilst others have been introducing novelties, many of which have been short-lived, or have only been well known to be condemned.

By depression of a cataract, we must, to a certain extent, injure the vitreous humour, into which mass we force the hard lens. It may be left too near the iris and ciliary processes, and thus produce iritis, or it may press on the retina, and give rise to chronic retinitis and amaurosis. Subsequently the cataract is generally in some measure covered by the vitreous humour; in other cases it rises again, and has to be depressed a second time, or to be broken up, if that be feasible, or it may fall down at once into the bottom of the eye if the vitreous humour be very fluid, and then the cataract will at once be seen moving about, as if it were floating in that humour. Several different modes of performing this operation are practised; in one, (reclination,) the lens is so placed, that the anterior surface is made to face upwards, and this method has been said to possess the advantage of not pressing on the retina below, and also of its being more likely that the lens will be kept in its new situation by the vitreous humour lying more fully over it; but the vitreous humour is more broken through in this operation than in simple depression.

When the case will admit of it the extraction of a cataract is, on many accounts, the preferable operation. Of its advantages and difficulties I shall presently speak.

The third mode of operating is the breaking up of a soft cataract, and leaving it to be absorbed in the aqueous humour, which possesses this peculiar solvent power.

The names of Petit and Daviel are associated with the early operations for the extraction of cataracts, and a very complicated operation indeed was it made at those periods; but in later times it has been very much simplified. There are three different stages in the operation —the section of the cornea, the laceration of the capsule, and the extraction of the lens; but before we determine whether we should perform this operation, we should take many important points into consideration. If any adhesion of the iris exists to the cornea anteriorly, or to the lens posteriorly, it would prevent a sufficient dilatation of the pupil to allow of the passage of the lens through it, without its causing a laceration of this delicate tissue; and whilst we might be using only a gentle pressure on the globe for the removal of the lens, the vitreous membrane might be ruptured, and the vitreous humour would then partially, or wholly, escape; or we might be obliged, as a *dernier ressort*, to enlarge the pupil, by cutting the iris at its pupillary margin. We therefore always examine thoroughly an eye under the influence of belladonna, and consider it as a *sine qua non* that there be no such adhesions of the iris if we proceed to the extraction. If the anterior chamber be very shallow, or if the lens appears large and bulky, and if it pushes the iris forwards, we modify the operation by previously getting rid of part of its surfaces, by the operation for absorption to which I before alluded, and subsequently we extract the cataract easily, when it has been reduced in size. If the globe is flaccid and soft, we know that the humours are diseased and very fluid, and that the vitreous membrane is probably not entire, so that we should most likely lose more or less of the humour directly the lens had escaped, even if the lens did not, as it sometimes does, fall back into the posterior part of the vitreous humour. If the patient complained of much pain, or if he suffered from ocular spectra, and the eye presented a greenish hue, we should not be justified in performing this operation. If the eye be very deeply sunken in the orbit, either naturally, or from the absorption of the fat which generally exists in that cavity, we should experience great difficulty in making the section, and we should, of course, always ascertain the condition of the circulation, and the general power of the patient, and regulate it accordingly, or alter our plans in consequence of what we might have observed. We prefer lowering the circulation, if that be necessary, by means of using a lower diet; the avoiding stimulating liquors, and the administration of a few doses of aperient medicine, to the old practice of venesection, which used to be very generally adopted. If, on the other hand, the patient is very feeble and aged, it becomes an important point for consideration, whether he has sufficient power to effect a good union of the cornea; and if we cannot raise the powers of the individual sufficiently to dispel all alarm on this point, we must give up the idea of extracting his cataracts; also, the existence of a disposition to gout or rheumatism, or cough, or the presence of any cause for general depression or anxiety of mind, are considered to be so many causes for pausing, before we determine to extract a patient's cataract. Until of late it was more generally the custom to have the patient sitting in a chair facing the window, so situated as not to admit of sunshine, and yet to afford a good and clear light from above, the lower shutter being closed, and the surgeon sat on a high stool or chair, facing the patient; but now we mostly prefer that our patient should recline on a firm couch, lying on his back, with his head gently raised. So much for the position of the patient during the operation. But we have many other little points to arrange previously. The bed on which the patient is to rest should not be too soft, and there should be a firm bolster, with the pillows tacked to it at the ends, and the bed should be provided with a footboard, so that the patient cannot sink down in the bed. Some fine linen, and a short roller, will be required immediately after the operation.

I just now said that a great variety of instruments have been proposed and used, but none with more general advantage than those which I now show you:- a Beer's knife, rather shortened in the blade; a curette for the laceration of the capsule; a very delicate hook, with which we remove the cataract, provided it does not easily escape; two curved knives, one cutting at the concave edge, and the other at the convex edge, with either of which we enlarge the section of the cornea if necessary; and a pair of iris scissors. [These instruments were now exhibited, and their peculiar uses were fully described.]

If you operate on a patient sitting in a chair, your assistant must stand behind the patient, whose head should rest against the assistant's breast; his duty is, to fix the head completely, and to elevate and retain in that position the upper eyelid of the patient, without in any way pressing on the globe The two points of danger as regards the assistant's office are, that he should carelessly let the lid drop, or that he should press on the globe. The first error might occasion much mischief; the second might be fatal to the case; as he might cause the escape of the vitreous humour, and destroy the organ. He may use his middle or index finger alone for the elevation of the lid, and he is gently to raise the finger forwards from the lid, so as to allow it to drop gently when the operator has completed the section and withdrawn the knife. The speculum, which is used for keeping open the eyes of infants, is not required for adults except in very unusual cases, where very great irritability exists. This, then, is the primary arrangement for the operation in the sitting posture. But supposing the patient is reclining on a couch, the operator sits behind him generally, as we mostly now prefer making the upper section; and even if the lower section were about to be made, the surgeon would still have some advantage in placing himself on a high stool, behind the patient. The advantage I chiefly refer to is this, that the surgeon himself has then the management of the upper lid, and he best knows when to relax his hold, and also what degree of pressure he may safely use; likewise, his attention will not easily be attracted from his patient, whereas his assistant's might possibly be for a moment diverted, and in that moment he might let the lid fall, or press too hard on the globe. Some surgeons bandage the other eye: I do not think it necessary. I generally elevate the lid with my index finger; with my middle finger placed on the globe, I prevent the eye rotating inwards towards the nose, and with my ring finger I generally gently close the lid of the other eye. But sometimes the patient's eye is so irritable, that, for the purpose of steadying it, we direct him to look at an object before him, with his good eye, and of course the ring finger is then not used. In the operation the assistant's duty is simply to hold downwards the lower lid, without exercising force or causing eversion. We may do this differently in different cases.

Sometimes the end of the nail of the index-finger serves well, being placed over the edge of the tarsus; at other times, the simple drawing down of the integuments of the cheek appears quite sufficient. The operator should hold his knife as he would a pen, keeping his finger very near to the blade, in order that he may have full command of the knife, so as to push it onwards without moving the hand itself; the little finger may rest on the upper part of the cheek of the patient. It is usual to place the flat part of the blade of the knife on the cornea first, for two purposes; first, that the surgeon may see what advance of his finger will be necessary, in passing the knife through the cornea; and secondly, in order that he may, as it were, accustom the eye to the being pressed on gently by the knife. The patient may be asked if he was hurt by the knife at that time: he may, from fear, answer, "Yes!" when the truth may be told him, and he will be convinced of his folly, and will gain confidence, and, at that moment, the incision should be proceeded with;—or he may have answered, "No," when he may be told that he will not be more hurt, as he will only have the sensation of pressure on the eyeball by the cutting of the cornea. This little precaution often causes a nervous person to hold his eye steadily whilst the incision is made. Or the patient may be asked some indifferent question, and whilst he is answering it, the eye will remain steady.

The section should embrace rather more than half the cornea: the lower half of the cornea used to be the part generally cut, but the upper one is that now very generally chosen for making the incision; as, if the edges of the section should unite slowly, there will be an opaque line on the cornea of greater or less breadth, which might interrupt clear vision, and which, at any rate, would prove unsightly;—if this occurred at the edge of an upper section it would be of no consequence, as it would be concealed by the upper lid; and, if the pupil should be drawn upwards, or even closed, during the after treatment; it might either be drawn down, or a new pupil made, in a manner to be described hereafter; and the cornea would have remained clear at the most important part.

Also, I may mention, that it is rather easier for the surgeon, who is sitting behind the patient's head, to cut towards himself, than in an opposite direction. Those who have become very expert, from practice, can cut either way, or even outwards and downwards, which plan was sometimes adopted by the late Mr. Tyrrell. The point of the knife should be introduced into the cornea perpendicularly to its lamellæ at first, a very slight distance from the sclerotic, a little above the transverse diameter of the cornea. Having thus entered the anterior chamber, it is at once to be passed tolerably rapidly through the chamber, quite flatly, until the point has reached the opposite side of the cornea, where it is intended that the knife should penetrate, and pass outwards.

The operator is to keep his eye on the part of the cornea at which he intends to carry out the point of his knife; the blade will follow the eye, and in most cases the section will be thus easily completed. Sometimes the most convex part of the section is not at once completed, and it may be necessary to withdraw the knife a very little, and advance it again, or to move the handle towards the operator gently, but no violence should ever be used in these cases. Sometimes the section is completed by the operator placing his finger-nail opposite the edge of the knife, to keep the cornea, as it were, steady, whilst he completes the section; but this is not a desirable mode of proceeding. And if the operator has been careful in selecting a knife with a blade of a length suitable to the commissure of the lids, which is often very small, he may generally complete the section very easily, and without pricking the nose, which, when it takes place, is generally the result of too narrow and long a blade being used. On the other hand, if too short a blade were used, the middle part of the section would be completed before the point of the knife had penetrated the opposite side of the cornea.

I directed you just now to keep your eye on the point of the knife, and on the part where the knife ought to pass out again, until you have made the counter-opening; and I did so especially because the aqueous humour will escape if any attempt is made to cut out, as the position of the knife is then altered by the motion of the fingers, and an opening is thus left, at which the fluid at once escapes, and then the iris falls forwards, and perhaps in front of the edge of the knife. If the knife has been properly made, it increases gradually in thickness, and fills up the wound as it passes onwards, and thus prevents, proper care being taken, the escape of the aqueous humour. If any violent spasmodic action of the muscles of the eye should take place whilst the section is being made, it is better to wait a few seconds before it is completed, otherwise the lens and vitreous humour may be forced out violently; and although bystanders may be delighted in seeing the operation thus quickly finished, we know it would have been much better for our patient if we had lacerated the capsule, and ended the operation in the usual way.

In surgery generally, it is important that you should be able to use both hands alike; but in the operation for extraction, it is all-important you should be ambidextrous, as it enables you to be independent of your assistant. I will suppose you to have now completed the section of the cornea satisfactorily; you have next to lacerate the capsule, to allow of the escape of the lens—this is to be done with the curette you have already seen; introduce it carefully, so that its point should not lacerate the iris; and when its end is opposite the centre of the pupil, you are to depress backwards gently the sharp end, and then move it from side to side, and upwards and downwards, so as to lacerate the capsule, but without touching the lens itself; this free division of the capsule is rather important, in order to prevent the occurrence of secondary capsular cataract.

The third step in the operation is the removal of the cataract itself. Having allowed the eye to be closed for a few seconds, we quietly raise the upper lid by gentle traction with our fingers near the eyebrow, and we then, with the spoon-shaped end of the curette, exercise a gentle pressure on the globe of the eye from below, with the intervention of the lower lid. All this must be done with the greatest care and delicacy. It is usually necessary to press also, though very gently, on the upper part of the globe, with the end of your finger over the lid. The iris, during this stage of the operation, is much pressed on, but the pupil yields gradually, and allows the lens to pass through it. Of course all pressure is to be removed the moment the lens has passed through the pupil, for if continued pressure were used, the vitreous humour would in all probability escape. We now let the lid drop and remain closed for a few seconds, until the eye appears quiet, and it is found useful to move the anterior part of the index finger in a rotatory manner gently over the globe; this serves as a slight stimulus to the iris, and makes it contract, if it had not done so at once. We then raise the lid very delicately, and observe whether the flap of the cornea is smooth, and having its edges in nice apposition with the rest of that tissue; if it be so, and if the pupil is circular, close the eye at once, and direct the patient to keep the eye gently closed, and to avoid any forcible closing or shrinking of the lids. We apply a square double fold of linen over each eye, attaching them above the nightcap, which should have been previously put on, and then a short roller, about two and a half or three inches in depth, should be passed around the head, but not too tightly, and pinned to the nightcap and to the sides of the two pieces of linen, so as to keep them well in their proper places. I omitted to mention, that we advise our patients to be very loosely dressed, so that there should be no effort in undressing at night. We generally place the patient in bed, almost immediately after the operation, unless he should much prefer lying on his couch until the evening, in order that he may have a better night. In either case his head and shoulders are to be kept raised, and he is either to be on his back, or on the side opposite to the one on which we had operated. We do not now—although it was done formerly—apply any lotions to the eye, there being an idea very prevalent amongst ophthalmic surgeons, that rheumatic ophthalmia has often been brought on by wet applications, as Goulard's lotion, &c. The room is to be kept quite dark but airy, and yet free from drafts; the patient should be impressed with the great importance of his avoiding talking or of allowing any exertion of the muscles of his face and temples, as in mastication, coughing, sneezing, blowing his nose, &c. He should be well watched, to prevent his unconsciously rubbing his eye with his hand; we sometimes tie the hands down loosely, so that if he attempts to raise them, his attention is called to the lesson that has been given to him. Sometimes the aqueous humour escapes partially before the section is completed. The iris will generally, in such cases, fall before the edge of the knife. By holding the blade still, and gently scratching over the surface of the cornea with the edge of the finger-nail, the iris will presently be stimulated and withdrawn, so that the knife may be advanced safely, and the section be completed; but if the iris is lying fully before the knife, and if its position cannot be altered, it is better to withdraw the knife quietly, to let the patient rest for a few days; the section will quickly heal, and the eye will, in all probability, be less irritable on a second occasion. Sometimes a very small part of the iris lies before the knife when the section is nearly completed; in such a case the knife is to be retained in its position, and the curved knife, which cuts at its convex edge, should be introduced gently, and in this manner the operation easily enlarges the section to a satisfactory extent, after which the iris will contract, and the cataract knife is easily withdrawn without any injury to the iris having been effected. We do not generally now apply belladonna to the eye previous to an extraction, because it was found that its effect seemed often to be lost the instant the section was commenced. You will hear Daviel's scissors recommended for the enlargement of too small a section, or for the completion of one unfinished, such as I just alluded to; but the scissors do not make so clear a wound as a knife, and they are therefore not often used for the purpose. Also, Mr. Guthrie's double-bladed knife, the larger blade being blunt, is recommended by some surgeons. I have not had occasion to use it. Of course the blunt blade is the larger, and is intended to pass next to the iris; the smaller, the cutting-blade, passes in front of it, and next to the cornea; it is made to slide over the other, and thus to cut the cornea whilst the iris is protected. A section being too small is a serious evil, and a much greater one than the section being larger than might be desirable, as whilst pressure is being made on the globe the vitreous membrane will most probably be ruptured. You will recollect I also told you that adhesions of the iris were causes of serious objections to the attempting the operation for extraction; but, nevertheless, sometimes the iris is adherent to the capsule at some one point, which has been overlooked by the surgeon in his previous examination of the eye; under such circumstances the lens cannot escape, and surgeons use different modes for the liberation of the edge of the iris. Some cut the pupillary edge with Maunoir's scissors; others attempt to divide the adhesions with the sharp end of the curette; others again use the curved knife. I do not like the idea of using this last instrument for such purposes, and happily it is a rare necessity. Sometimes the lens becomes dislocated into an unhealthy vitreous humour; it is necessary then to remove it gently with the fine hook, which I now show you, it being very desirable not to leave the lens in the globe under such circumstances. This little operation requires great delicacy and dexterity.

I have often seen cases wherein the capsules have appeared not to have been sufficiently opened, consequently the lens could not escape until a freer opening had been effected. This accident occurs from an anxiety on the part of the surgeon not to handle these delicate parts too roughly. Sometimes, also, we observe that the iris has been slightly wounded, thus forming a second pupil; it is better at once to form one pupil from the two rather than leave the two separate ones, which would of course only confuse the patient afterwards. If, in passing out, a portion of the soft superficies of the lens remains in the eye, it is better, unless it be much in quantity, or unless it lies between the edges of the section, to leave it there, as it will soon be absorbed; but in either of these two circumstances mentioned, it is better to remove the greater part of it with the scooped end of the curette: this is very easily effected, and without causing any pain to the patient. If the vitreous humour rises under the edge of the cataract whilst we are pressing on the globe for the removal of the lens, all pressure must instantly be removed, and the lens be gently hooked out. We do not grieve at the escape of a certain quantity of vitreous humour; and, indeed, some surgeons say that they prefer the eye losing a little of it at the time of the operation, as there will be less distention, and therefore less probability of inflammation. Some of our best surgeons have even punctured gently the hyaloid membrane when it has protruded between the edges of the section after the operation had been concluded, and thus a small quantity of the humour has escaped, and the section has then united well. The danger of such a process is, lest the humour should continue to ooze out. I have, however, seen cases wherein I think the patient would have had better eyes than afterwards happened, if this practice had been carefully adopted. If a considerable quantity of the vitreous humour escapes, it has generally been found that the cornea is longer in becoming thoroughly healed at the point of section, the cicatrix is often opaque, and rather broad, and the pupil eventually drawn much upwards, and very irregular in shape. It has been said that a fourth may be lost, and yet the patient have good vision; but it is found, that if more than this is lost, the vision does not again become distinct. If the iris lies sluggishly between the edges of the section, it should be gently replaced with the curette, which will mostly serve the desired end. The most serious accident that can occur during the operation for extraction is, the hæmorrhage from the central artery of the retina, which passes to the posterior part of the capsule; this occurs very seldom, and then not during the operation. I have known it occur half a dozen or more times, and in cases operated on by the most experienced surgeons, just as the eye has been closed; and when it was supposed that the operation was well over, a drop or two of blood have been seen trickling down the cheek, and on opening the lid, it has been at once evident that arterial hæmorrhage was going on. In every case but one in which I have seen this occur, suppuration of the globe has followed; cold water is the best application, but we never expect to save the eyes when this accident has occurred, and we consider that it has been the result of old disease; if some opake capsule remain after an extraction, we leave it there for the time rather than attempt to remove it, when the iris cannot be replaced, on account of the bulging of the vitreous humour, the puncturing the hyaloid membrane, which I have before described, will facilitate the replacement of the iris. I have often seen cases where, when the eye has been closed after the operation, the flap has been caught and turned downwards; therefore it is highly necessary to raise the edge of the lid in each case very gently, and to observe from below, whether the parts are in good apposition; sometimes the cornea presents a complete cupped-shape concavity, it must be delicately raised and laid flatly in its proper situation, and most probably all will go well, as the aqueous humour is re-secreted in so very short a period, but now and then by some sudden opening and shutting of the eyelid, some little time after the operation, the flap is turned completely down; this happened in a case under my care: the lady had a sudden fright, and rose immediately in bed; on the second day after the operation, she afterwards told me that she suddenly opened her eye, and had then felt as if the eye were stabbed by a knife, but she laid herself down again, and when I visited her on the third morning, expecting to find the eye in a satisfactory condition, I observed the corneal flap lying completely downwards, and the eyelids were of a rather livid hue. I replaced the flap with a probe, and as the lady was weakly, and had no power, I gave her much stimulus and support; at the time, I concluded that the eye was lost, but I was exceedingly pleased by the result, after a very protracted attendance, for the cornea became well united and clear in the greater portion of the flap, and the patient had good vision. I told you that we allow the patient to go to bed at once, or to rest on his couch until evening; if he should be restless, and particularly if he has been in the habit of taking any sedative medicine, I give him some of Battley's sedative liquor of opium, with camphor mixture, and tincture of cardamoms; this form of laudanum has a less unpleasant effect on the head than most of the other preparations of opium. The patient should be told that he will probably feel during the night, and following day, as if his eye had been bruised, or as if some grit was lying between the eyelid and the eye, and that this is of no importance; but that if any more darting pain should come on he should mention it instantly. A little tepid water and a sponge, or soft rag, should be at hand, with which his eyelids may be bathed occasionally at the edges, when they feel dry and agglutinated, and a little spermaceti ointment may be afterwards gently applied, so as to lubricate the lids.

I gave you directions before to administer a dose of aperient medicine in the morning, before the operation, and therefore it will not be necessary to administer any purgatives soon afterwards The patient's food is to be light and nutritious, and need not require any mastication. Very great attention should be paid to the patient for the first two or three days, as it is highly important to prevent the occurrence of any inflammation. The iris has been much pressed on by the lens, the wound of the cornea has been large, and, consequently, the subjacent parts have been much exposed, and inflammation may arrive at a very early period after operation. Each case must be treated according to its indications; but, when the constitution will bear it, free venesections, and vigorous antiphlogistic means, must be put in force at once. When the patient is bled, let him sit up, as it is especially desirable to avoid any fainting or sickness, as this last condition may ruin the eye; and whilst he is in the upright position, the circulation is sooner effected, without these hurtful accompaniments; also the upright position will of itself, in some measure, relieve the head and eye. We do not give mercury in these attacks, if we can probably do without it, as it would be likely to arrest the process of adhesion of the cornea. The application of belladonna drops acts naturally in preventing any adhesion of the iris, anteriorly or posteriorly. The inflammatory action may in these cases be acute or sub-acute, and chronic; the appearance of the lids and conjunctiva oculi will point out these conditions clearly. In the former case, the lids are of a florid red colour, and there is generally a chemotic condition of the conjunctiva, of a sanguineous or fibrinous character, indicating power; and, in the latter case, the lids will be slightly discoloured, or of a livid hue, and sometimes œdematous, and the chemosis will have a serous character, and the secretion will be poor and thin. All this last character indicates debility, and want of power. The vigorous condition alluded to requires a corresponding treatment; and the other will bear and demand ammonia, and camphor, and opium, and a nutritious light diet, and, in some cases, even wine, beer, or spirits. A prolapse of the iris, which often occurs a few days after the operation, is to be considered as one of the most unfavourable circumstances. It must be touched with the nitrate of silver, very carefully, or a weak solution of nitrate of silver should be injected occasionally between the lids. If the protrusion is not yet decidedly checked, it continues slowly to increase; and if by any unhappy chance the patient should cough or sneeze severely, the staphylomatous protrusion may be suddenly much increased. In some cases it has been considered desirable to nip off with scissors the protruded portion, and then apply the caustic. This is likely to set up a new action, and to prevent further mischief; but in such cases it is most probable that so much of the iris has been protruded, that the pupil has become closed. It seems, however, to be the only chance, and often leaves us the opportunity of making an artificial pupil for our patient at a subsequent period. I have seen some cases wherein, from the want of power of the individual, and from the want of adjustment of the flap with the rest of the cornea, a vesicular protrusion has been observed, which has been considered to have been formed by the lining membrane of the cornea. These have given much trouble; they have been cut off, and at other times they have been causticked. After an operation for extraction, the aqueous humour continues to be discharged for very different periods in different patients. In some the section is united in a few hours; in others not under as many weeks. If the tears are secreted very freely, they distend the lids much; and we direct the attendant to draw down for the patient, with the fingers placed flat on the face, the integuments on the cheek; in this manner the under lid is a little drawn downwards also, and the tears rush down the cheek, and the patient feels much relief. This may appear a trifling suggestion, but it is useful, and contributes much to the patient's comfort. Some surgeons examine the eyes of a patient on the third morning, but others on the fourth after the operation. I rather prefer the longer period, as thereby the cornea has had twenty-four hours longer to become firmly united. This examination is to be made with great care and tenderness, by gently raising the upper lid. The patient and the surgeon are both anxious on the subject; but if the section should not have been well united, or if any untoward appearance should be observed by the surgeon, it is very important that he should not say anything likely to discourage the patient. After you have, on the fourth day, satisfied the patient by examining the eye, it is right to direct him to close it, and not attempt to re-open it for a few days longer. This precaution is highly necessary, as every patient is naturally anxious to try his eye, as he terms it, and ascertain what he can see with it; but the union of the cornea is not very firm at this time, and very often the section has not been fully healed. At the expiration of ten days or a fortnight the patient becomes gradually accustomed to a moderate light; but the irritability of a patient's eyes varies so much, that each case will guide us in this respect for itself.

I shall make some observations with respect to cataract-glasses and their peculiarities in a future lecture. Occasionally the lens has become dislocated, and it lies at the bottom of the anterior chamber, between the cornea and the iris, but it will most probably press backwards the iris, and therefore it becomes very desirable to remove it at once. This may be done easily by making a small section of the cornea. We must give to Mr. Gibson, of Manchester, the credit of having been the first surgeon who extracted soft cataracts through a small section of the cornea. He stated that his wish was to spare the patient much time, and also the eye a certain degree of irritation, consequent on repeated needle operations. He used to open freely the capsule, and then waited a few weeks, after which time he proceeded to extract the pulpy lens, by making an opening on the outer side of the cornea, and low down. He used to introduce the curette, and remove the fragments of the lens if there were any. He considered that the eye was less injured, on the whole, by this process than by repeated needle operations. I have seen Mr. Travers formerly extract small soft cataracts by making this small opening in the cornea, and then with the front of the knife he lacerated the capsule; sometimes the lens was shot out, as it were, with the aqueous humour; at other times it was scooped out. By some surgeons the lens has been extracted through the sclerotic, but I do not think the advantages said to belong to this operation at all compensate for the evils likely to result from such a wound of the sclerotic. I shall proceed, in my next lecture, with the other operations and treatment for cataract.

A Clinical Lecture

ON A

CASE OF DISEASE OF THE PROSTATE GLAND AND BLADDER.

By JOHN ADAMS, Esq., F.R.C.S.,
Surgeon to the London Hospital.
(*Reported by* Mr. W. H. Williams.)

Case.—G. P——, aged twenty-six, by trade an ironfounder, was admitted into the London Hospital, June 2, 1850, under the care of Mr. Adams, suffering from chronic inflammation of the bladder, the result of diseased prostate. He stated that he had been ill two years and a half, during which time he had been a patient at a metropolitan hospital for six months. It was then supposed that he was suffering from psoas abscess in the left side, there being a fluctuating tumour pointing beneath Poupart's ligament. The moxa was applied to the loins; and stimulating liniments, as well as other counter-irritants, were resorted to without benefit. The abscess was subsequently opened, and the patient discharged as cured, about twelve months since.

His symptoms, when he presented himself at the London Hospital, were pains at the neck of the bladder, and over the pubes; micturition very frequent, with scalding urine loaded with pus, and streaked with blood, sometimes of a very dark colour and offensive odour, with a very adhesive sediment.

Treatment.—Full diet, with palliative remedies. The urine being alkaline, Mr. Adams injected the bladder with an acid solution,* which gave temporary relief; subsequently he complained of a lancinating pain in the loins, particularly in the left side; the sanguineous discharge from the bladder increased, and the patient remained in the same state for twelve or thirteen weeks. His appetite, however, was very good during the whole time. Various appropriate remedies were used, and about eight weeks since the mucous and sanguineous discharge disappeared, but the patient complained of an acute pain in the right side and lower part of the abdomen, accompanied by diarrhœa and great fever. The diarrhœa and fever continuing, he was transferred to the physicians' ward, where he was treated by the usual remedies.

On Sept. 28th, more than three months after admission, the patient felt pain and heat in the peritonæum; of these he did not complain until Tuesday, Oct. 1st, when Mr. Adams was requested to see him. Upon examination, he was found to be suffering from an abscess in the perinæum, which Mr. Adams opened at once with a bistoury, when a large quantity of thin pus, with a strong urinous odour, was evacuated. The poor man was removed to Talbot ward, and the opening ordered to be poulticed with linseed meal. Milk diet, chop, twelve ounces of wine, a pint of porter. Part of the urine escaped through the opening in the perinæum.

Oct. 7th.—The bladder became very irritable. He was ordered barley-water as a beverage. Micturition very frequent, with great scalding when the urine was voided. Mr. Adams ordered liquor potassæ with hyoscyamus, which medicine relieved him much.

11th.—The patient complained of a swelling on the left side of the scrotum, and within the cord; the latter was very hard, but with no external appearance of inflammation; he complained of a throbbing pain in the part, with slight fever, loss of appetite, &c. Ordered warm fomentation covered with oiled silk, taking care to support the parts with a suspensory bandage.

12th.—Omit the liquor potassæ, and substitute saline mixture, with five minims of tincture of opium every fourth hour; this allayed the febrile disturbance, and produced sleep.

13th.—Seems easier and cheerful.

14th.—There is fluctuation in the scrotum. It should be noted that the aperture in the perinæum was healed up, and no urine passed through it when this second abscess formed.

15th.—The abscess burst, and a very copious discharge of thick pus followed. Poultices were applied, the pulse being about 100.

18th.—Resumed the liquor potassæ, with tincture of hyoscyamus and mucilage. The patient suffers very much from lancinating pains through the lower part of the abdomen; pulse very frequent, but weak.

25th.—Patient having complained of very acute pain at the neck of the bladder, Mr. Adams ordered him a suppository to be used every night, composed of soap and opium pill, five grains, which gave him relief.

26th.—He was not able to eat his chop, and there was substituted for it strong broth.

27th.—His bowels being confined, he was ordered two drachms of castor oil, which did not operate until the dose was repeated.

28th.—Patient seems to suffer less pain, but appears much weaker, and he gradually sank, and died Nov. 1st. 1850.

Autopsy, made Nov. 2nd.—Upon opening the abdomen, the peritonæum was found inflamed; it had a very recent deposition of lymph upon its surface; the intestines, liver, spleen, and pancreas appeared healthy; there was an abscess on the right side of the pelvis, which seemed to have burrowed into the peritonæum, underneath the fascia, from an opening situated in the left side of the bladder. The kidneys, bladder, and ureter were removed; and, upon dissection, the prostate gland was found to have entirely suppurated away; the bladder very much thickened, and its internal surface presented an ulcerated appearance, and gangrenous colour, with sinuses passing through it. The ureters were very much dilated, particularly the left, and contained cheesy matter; the left kidney presented a nodulated appearance externally; the supra-renal capsule was thickened and indurated; and when cut into, the kidney was found to contain the same kind of cheesy matter. The left testicle contained pus; the right kidney and testis were natural; the chest was not opened.

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* One drop of muriatic acid to the ounce of water.

GENTLEMEN,—I have brought this case before your notice because of the obscurity of the symptoms, and because of its great importance. In taking a retrospective view of the case, there are many circumstances of great interest to which I wish to direct your attention: but the case throughout was involved in great obscurity, and the symptoms were decidedly equivocal

The patient, when first brought to the hospital, was labouring under a train of symptoms indicative of great constitutional disturbance, accompanied with excessive irritation of the urinary system; it was a matter of very great difficulty to unravel the cause of his intense sufferings. His principal symptoms were referable to the condition of the bladder: thus, he had frequent and urgent desire to pass urine, the discharge of which was attended with great pain, and this pain increased in intensity after the evacuation of the bladder. Only a small quantity of water was discharged at a time, and this was either tinged with blood, or was attended with a discharge of soapy mucus, which subsided to the bottom of the utensil, and was occasionally loaded with pus, as was proved by microscopical examination. The urine was very offensive, at least after remaining a short time in the receiver, and it gave decided evidence of alkalinity.

Now, all these symptoms were accompanied by pain in the loins and in the groins; and in an advanced stage of the disease, an urinary abscess was formed in the perinæum, through which pus and urine, mixed with the mucus of the bladder, were discharged. This was succeeded by an abscess in the scrotum, which was discharged, and healed up. During the progress of the case, which, I regret to say, advanced almost uninterruptedly from bad to worse; the man gradually emaciated, and eventually sunk, his dissolution being preceded by pain in the abdomen, indicative of low peritonitis.

Such is a very brief review of the case, and I wish you to bear the signs in your recollection, whilst I point out to you the circumstances which led me to the opinion, that this patient was all along labouring under scrofulous abscess in the prostate.

Let us first take the most prominent symptom in the case, namely excessive irritation of the bladder, &c. To what was that referable? The first idea that suggested itself to my mind was, that there might be a stone in the bladder; I therefore passed a sound, and by this examination, was satisfied that no stone existed; so that here was an important point in our calculation—viz., a positive proof that no stone existed; (and here let me tell you, by way of parenthesis, that in the investigation of obscure diseases, it is a very important thing to find out what a disease *is not*, if you cannot find out what *it is*.)

Being convinced that there was no stone, and having observed that great pain was experienced in passing the instrument over the prostate, I came to the conclusion that the patient was labouring under abscess of the prostate, most likely of a scrofulous character, and this impression was abundantly confirmed by the subsequent progress of the case. I was further strengthened in my opinion by another case, which, although it occurred to me some time since, is still fresh in my memory. I was called to see a gentleman with a swollen testis, and excessive urinary irritation; the case was supposed to be one of hydrocele by one surgeon, of stone by another. On sounding, no stone was discoverable, and I suggested scrofulous abscess in the prostate, as the cause. He died, worn out much in the same manner as our unfortunate patient, and the examination after death proved the accuracy of the diagnosis.

In regard to the case before us, I must remark to you that at any rate the signs of the disease alluded to are unquestionably equivocal, and that a similar train of symptoms may arise from other causes than the one in question; nay, that you may have almost all the symptoms present, notwithstanding no disease at all exist at the neck of the bladder, for there is no doubt that excessive irritation of the bladder, accompanied by pain in micturition, bloody, and even purulent urine, may result from disease of the kidneys, and that some of these symptoms may depend on an increase in the acid constituents of the urine.

The deposit of scrofulous tubercles in the prostate is decidedly rare, and is found to occur usually in cases where tuberculosis prevails throughout the urinary and genital system. I have, in the article "Prostate" of the Cyclopædia of Anatomy, collected a few cases from different authorities, and have mentioned one in which as many as thirty small abscesses, and as many crude tubercles, existed in the prostate.

It is impossible by any signs with which we are acquainted to recognise the disease before the tubercles have advanced to softening and suppuration, and therefore it is useless to say anything about the treatment in the early stage; and even in the advanced stage of the disease, as in the case before us, a palliative mode of treatment by sedatives, to lull the pain, and the employment of means calculated to sustain the general health, are alone calculated to benefit the patient. You will find, however, in this instance, that various medicines were had recourse to, but when the case became fairly made out, I contented myself with the endeavour to lull the patient's sufferings, and to support the general health.

The post-mortem examination of the case is interesting, as exemplifying a mode of termination of such cases which is by no means common; thus you perceive that the immediate cause of death was peritonitis from the bursting of an abscess from the pelvis, through the peritonæum. In the last volume of the *Medico-Chirurgical Transactions* a case is recorded of a large abscess which formed in one of the vesiculæ seminales and made its way into the peritonæum, thus producing death by inducing subacute peritonitis; and, to a certain extent, there is an analogy between that case and the one under consideration.

ON THE
PHYSIOLOGY AND PATHOLOGY
OF THE
GANGLIONIC NERVOUS SYSTEM.

By James George Davey,

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> "There are yet great truths to tell, if we had either the courage to announce, or the temper to receive them."—Disraeli.

CHAPTER II.—(*continued from p.* 132.)

Before proceeding to consider in detail the physiology of the solar ganglion and its dependencies, it is perhaps desirable to offer a few observations on the anatomical relations and dependencies of the three nervous centres. These will, it is hoped, facilitate the right comprehension of those physiological remarks which follow.

The brain, the spinal cord, and the solar ganglion, regarded respectively as the centres of the several nervous systems of man and the higher animals, though executing distinct functions in the economy of life, are, by means of the innumerable ramifications of their subordinate parts, and their union each with the other brought into so close a connexion, that their physical separation is a matter of impossibility. Though not *mutually dependent*, they nevertheless exercise such a reciprocity of action, that the health and well-being of man is to be regarded as inseparable from their union. The solar ganglion, brain, and spinal cord, may be together, not inaptly, compared to an ordinary tree. the root, trunk, and extremities of which may be said to severally represent them; for the first has been the source, and continues to be the life of the other two; it has existed without them, and might again do so, though during their integrity it fails not to be the recipient of their toil, so to speak. The *root* will sometimes live on without the trunk and its extremities, and so will the paralyzed idiot. By referring to an engraving of the principal part of the organic nervous system, or sympathetic nerve, the anatomical connexions of the ganglionic with the spinal nerves, throughout the entire length of the cord, will be distinctly made out. It will be seen that each of the several ganglia, whether cervical, dorsal, or lumbar, gives off communicating branches with the individual spinal nerves, thus uniting the two systems. The solar plexus, the centre of the organic nervous system, is therein demonstrated as formed by the union of the two semilunar ganglia. It is described by Mr. Erasmus Wilson as "*a gangliform circle*," from which branches pass off in all directions, like rays from a centre. It gives off distinct filaments, which accompany, under the name of plexuses, all the branches given off by the abdominal aorta. Thus we have derived from the solar plexus the—

Phrenic plexuses.
Gastric plexus.
Hepatic plexus.
Splenic plexus.
Supra-renal plexuses.
Renal plexuses.
Superior mesenteric plexus.
Spermatic plexus.
Inferior mesenteric plexus.

However, the principal nerve of the solar plexus is the great splanchnic. It arises from the upper and back part of the organ, and proceeding upwards, pierces the diaphragm immediately to the outer side of each crus, ascends in front of the vertebral column, within the posterior mediastinum, and terminates by dividing into five branches, which severally proceed to the sixth, seventh, eighth, ninth, and tenth dorsal ganglia. The pelvic viscera and the lower extremities are supplied with their organic nerves from the hypogastric plexus and sacral ganglia. The union of the ganglionic and spinal nerves would, in itself, be sufficient to establish a connexion between the former and the cerebrum and its nerves. They have, however, a more direct communication, by means of the ascending or carotid branch of the superior cervical ganglion, which, having entered the carotid canal with the internal carotid artery, divides into two branches, which form several loops of communication with each other around the artery, which constitutes the *carotid plexus*. Now the carotid plexus is the centre of communication between all the cranial ganglia; and, being derived from the superior cervical ganglion, between the cranial ganglia and those of the trunk: it also communicates with the greater part of the cerebral nerves, and distributes filaments with each of the branches of the internal carotid, which accompany them in all their ramifications.* As each of the cranial ganglia, moreover, communicates freely with the cerebral nerves distributed about the head and face, exteriorly and interiorly, it follows that nothing more is required to establish the anatomical position which has been taken. I may add, nevertheless, that the pneumogastric nerve or vagus, by being distributed to the respiratory and digestive apparatus and heart, where it forms communications with the organic or vital nerves, as well as with the solar ganglion itself, by means of a small branch, which is represented in Plate 19 of Mr. Wilson's work, before quoted, as being given off by the principal trunk, where it turns forward to be lost on the anterior surface of the stomach, yet more effectually secures the relationship between the cerebrum and the solar ganglion, the centres of their respective systems.† The phrenic nerve, also, in being formed by the union of filaments from both the cervical and sympathetic nerves, and in being further distributed to the diaphragm, provides for the same end.

The anatomical relations of the several nervous centres, as above explained, Mayo strangely regards as a reason why the "sympathetic nerves in human beings can only be regarded as branches of the cerebral and spinal nerves, destined for particular uses."

I have before treated of the "*nisus formativus*," of its nature and uses, as well as of its general independence of the brain and spinal cord, and I have therefore, to some extent, anticipated the observations I had to offer "*on the physiology of the solar ganglion*." The reader will, I hope, excuse me if I recapitulate in a general way the line of argument there found.

In the first place, as regards the acephalous and amyencephalous monstrosities of Lawrence and Hall, we have the most conclusive evidence of the independence of the organic or ganglionic system of nerves on the cerebro-spinal system. We have a convincing and irrefragable assurance that the function of the solar ganglion and its dependencies is in itself as completely performed without the brain and spinal cord as with them. Who in looking to the acephalous, the brainless monster reported by Mr. Lawrence, would venture to declare that the influence of a *brain* was necessary to *life;* that *it* was anything more than an instrument *of* life. And who, in looking to the amyencephalous, to the brainless and marrowless monster described by Hall, could dare affirm that either the brain or the spinal cord were in themselves indispensable to existence; that is, to *life*. In both instances we are shown facts, which demonstrate to us as plainly and conclusively as can be demonstrated, the perfect and normal operation of the vital principle. We see the body nourished. the viscera perfected, and the bony fabric matured; and we are assured, therefore, that circulation, absorption, and nutrition, have been in full operation; in perfect action, without either a brain or spinal cord. It is truly absurd for Müller or any other physiologist to declare that "the *anatomy* of these monsters is *not* at present known with sufficient accuracy for any '*conclusion*' to be drawn from it."* The same cause which enables the abdominal and thoracic viscera of brainless and marrowless monstrosities to continue their functions, the identical source from which the heart and its vessels receive their power to circulate the blood; the liver, to secrete its bile; the stomach, to digest its contents; the intestinal absorbents, to take up the chyle; and the kidneys, to secrete their peculiar fluid, also empowers the organism of the decapitated animal in which the spinal cord has been also destroyed, to continue its specific action; the "*ultimate cause*" of the several phenomena of *life* is in both instances the same. "Clift saw the heart of a carp continue to beat eleven hours after the destruction of the spinal cord;" and Müller tells us that "in fishes the contractions of the heart continue for the space of half a day after the destruction of the brain and spinal marrow." The same author obstinately adds, "that the brain and spinal marrow must nevertheless be regarded as the principle source of the nervous influence; the cardiac nerves, under such circumstances, still retain a portion of the motor influence." In the instance of the frog experimented on by Redi, which lived "six complete months" after the "removal of the whole brain," as well as that of the animal operated on by Sir B. Brodie, in which the posterior part of the spinal marrow was removed, without affecting in any degree the strictly *vital* actions natural to those parts which receive their nerves from it, would Müller venture to assert that, in either case, the phenomena observed were referable to the circumstance of the retention of a certain power or principle of action, originally derived from either the brain or the lost portion of the spinal cord? Impossible! Nothing is more certain than that the destruction or *removal* of the solar ganglion and its dependencies is immediately fatal to the functions of the brain and spinal cord, no less than to those of the other corporeal organs, as the liver, stomach, &c.; and it is equally true that the destruction or removal of either the brain or the spinal cord, or even both of them, *if effected with care*, may be accomplished without impairing the energy of the ganglionic system. If you destroy the brain and spinal marrow of a frog, you will not *kill* the animal; the heart will still continue to beat, and the digestive process be carried on. A slight blow on the epigastrium, *over the solar ganglion*, will sometimes kill a man, but extensive injuries of the brain and spinal marrow are not unfrequently borne with comparative impunity. Pressure on the solar ganglion of a dog or cat or rabbit, will quickly destroy life; and if it be carefully made over the upper part of the *lumbar region*, where the experimenter will avoid the solar ganglion, the lower extremities will become completely paralyzed; the animal will merely draw them after him, as if they were but artificial appendages. Remit the pressure, and in a few minutes the spinal functions are restored, and the animal is as lively as ever. This, in itself, is a beautiful illustration of the dependence of the vitality of the lumbar spinal cord on the contiguous ganglia of the sympathetic. In the lowest classes of animals, we see the existence of the same nervous organism without the addition of parts which characterize those higher in the scale of being; in them there is observed a ganglionic system only, and therefore it is that they execute functions purely preservative. We may ask, if a ganglionic system be deemed sufficient for the vital actions of one class of beings, why should it not for another? Digestion, circulation, secretion, absorption, &c., are no more perfectly performed in man than in the oyster or medusa. *Life*, then, is identical throughout animate nature, and if a particular nervous power be held sufficient in one instance for the effects observed, why should it not in another, or even in all? There is this difference between the lower and more perfect animals; that whilst in the latter the vital principle is, it would appear, generated in a central organ, and from it diffused through the organic nervous system, in the former it is, I apprehend, produced equally by all the ganglia of the sympathetic; and therefore it is that "the division of these animals into separate fragments does not destroy the organism, but, on the contrary, gives rise to the production of several distinct beings." It would seem that the addition of a spinal system to a ganglionic, as in the annelidæ, constitutes the limit within which Nature allows the divisibility of the vital principle. "The articulatæ, although, like the annelidæ, they have a ganglionated nervous cord, do not continue to live when thus divided." The first possesses, in addition to ganglionic and spinal nerves, a medulla oblongata, from which nervous branches arise which furnish the animal with the use of its external senses; and these establish so indissoluble a connexion, and so direct a dependence on the external world, that the facilities which the animal enjoys more than compensate for the loss of the other property. A step is, moreover, made towards that more perfect organism wherein the increase in number and complexity of its parts tend, in an eminent degree, both to establish the responsibility of man, and to explain the nature of those physical laws to which *man* must submit, if he would avoid the many miseries which now press on him from all sides.

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* Vide Wilson's Practical and Surgical Anatomy.

† I am perfectly aware that Dr. Stevens maintains that both the vagus and spinal accessory nerves derive their origins, not from the medulla oblongata. but from the upper part of the semilunar ganglion. I cannot think so. In the first place, the direct connexion of the par vagum with the *semilunar ganglion* is by means only of a small nervous branch or filaments. As to the spinal accessory nerve, is it not distributed to the sternomastoid and trapezius muscles?

We may, with much propriety and truth, regard the permanent condition of the medusa, for instance, as characteristic of the temporary, or accidental, or acquired condition of *man*. In the very early period of fœtal life, we observe nothing more than a gelatinous, shapeless mass, in which the microscope can nevertheless discover a nervous ganglion or ganglia. *Life*, in both, is complete. This is a man's temporary condition; the same is permanent in the polype. In the amyencephalous monster—that is, brainless and marrowless fœtus—we see the ganglionic life of the medusa accidentally occurring; and similarly so in the animal which has been deprived of its brain and spinal marrow; as well as in the individual under the influence of animal magnetism; when, as oftentimes happens, the cerebral and spinal functions are completely obliterated, and the patient, of course lost to all consciousness and feeling, realizes the precise condition of one in a *profound* sleep.

From the observations already made, both in this and the preceding chapter, it is seen that the nutrition, growth, and reproduction, no less than the decay, of the organism, must be attributed to the operations of the organic nervous system. That the nutrition of all parts of the body, in conformity with the original type, presupposes the persistence of that power which originally produced all the distinct parts, all the organs, as "members of one whole," as parts necessary to our idea of the being; and which is present in the germ before any distinct organs are formed, while the animal exists merely "potentially."

Nutrition, then, is the continued reproduction, as it were, of all parts of the animal by its internal power; but in the adult, the reproduction can be effected only by the process of assimilation—that is, by the union of new matter with the assimilating parts; while in the embryo, in which no organized "groundwork" as yet exists, the parts are formed, their "groundwork" is, in fact, created, by the *formative power*, which is still undivided. "For although, until the whole body perishes, all the organs are directed by *one formative principle*, which produces the concurrent action of all assimilating tissues, and the operation of which we admire, as the vis medicatrix naturæ, in the correction of the subtle material changes which are induced by disease; yet organized parts of the body, once formed, cannot, in most cases, if wholly destroyed, be again restored by this power, this vital organizing principle," (Müller,)—which emanates from the solar ganglion, the central organ of the ganglionic nervous system.

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* See Müller's Physiology, vol. i. p. 208, second edition.

The observations made by Müller in treatment of the influence of the nerves on nutrition, are singularly contradictory. His argument is to the effect, that although the nutrition of monsters "is by no means defective," but their development up to the period of birth, even *perfect*, yet "is there no proof that the sympathetic nerve has a more especial influence on *nutrition* than the cerebro-spinal nerves, except, perhaps, the fact that the nutrition of a part does *not* cease when the nerves which it receives from the brain or spinal cord are divided"—a fact, which *I* must ever regard as a sure indication that the organic nerves can be none other than the nutrient nerves. Such is the inevitable conclusion. Why, it may be asked, does an injury or disease of the superior cervical ganglion arrest the nutritive processes in the eye. The branches of the third, fourth, fifth, sixth pairs of nerves, usually distributed to the contents of the orbit, are untouched, and nevertheless, the eye loses its vivacity, and becomes *disorganized*. We have, then, in these instances, as in many more, both *positive* and *negative* evidence of the truth of my position—viz., that the solar ganglion is the SEAT OF LIFE; and that by means of its dependencies the vital principle is diffused through the organism. Further, in order to show that the organic nerves do not influence nutrition, he, Müller, says, "Where any organ is wanting, there is always a corresponding absence of the *nerves*," meaning their cerebro-spinal nerves, "absence of the eyes is attended with absence of their nerves." This is a mere assumption, and to prove it so, I beg to offer for the consideration of the reader the following *extracts* from a report of my own to be found at page 293 of vol. ii. of THE LANCET for 1835 and 1836, concerning the post-mortem examination of a child born without eyes: "On raising the anterior lobes of the cerebrum, but *one* olfactory nerve was seen; and that was on the left side; the optic commissure was placed more posteriorly than natural; the sella turcica being much anterior to it. From its forepart, and in the median line, the rudiment of a nerve was continued, it was of a loose texture, and of a scarlet hue, as if from injection of its vessels. It proceeded into the substance of the pituitary body, in which it was lost. Several small blood-vessels passed through the foramen opticum; the fissura lacera transmitted both into and out of the orbit, the ordinary nerves and the ophthalmic vein." "The orbital roofs were then removed, and disclosed the presence only of condensed cellular tissue, which, when cautiously dissected away, exposed the several small muscles which naturally belong to the organ of vision, supplied with their respective nerves."

Sir Benjamin Brodie truly says that the processes of nutrition, growth, &c., must be referred to the same class of functions as that of secretion generally. The following experiments prove, not only so much, but also the relative properties of the cerebro-spinal and ganglionic nerves. In a young cat, the termination of the "nerves of the eighth pair on the cardia of the stomach were carefully divided; the animal was perfectly well afterwards; was lively, ate its food as usual, and the respiration was not affected. At the end of a week, and three hours after having been fed with meat, the cat was killed. On dissection, digestion was found to be going on as usual; the food in the stomach was in a great measure dissolved; and the thoracic duct and the lacteals were distended with chyle, having the ordinary appearance. The nerves were carefully traced, and it was ascertained that not the smallest filament had been left undivided. This experiment was repeated with exactly the same results.* It was long since asserted, "that the nerves of the par vagum are by no means necessary to digestion;" and more recent experimenters, including Magendie and Dr. J. Reid, have arrived at a similar conclusion, provided their division is made in such a manner as not to affect respiration and the free oxygenation of the blood †

A portion of the anterior and posterior crural and sciatic nerves were removed in a dog in the upper part of the thigh; the limb, of course, became immediately benumbed and paralyzed. A wound was then made in the leg, and the claws of all the feet were cut so as to make them of the same length. The wounds suppurated and healed as rapidly as if the nerves had been entire. At the end of seven weeks I measured the claws of the four feet, and found that those on the paralyzed limb had grown equally with those of the others.

The experiment was repeated by Sir B. Brodie on guinea-pigs, and with the same results. In one of them the tibia was broken, and the bone readily united.

The posterior part of the spinal marrow of a frog was removed so as to destroy the origin of the nerves of the lower extremities. In this case the bones of one leg were broken, and when the animal was killed the bones were found united, partly by callus and partly bony substance. Experiments, very similar in their nature and effects, have been performed by Dr. Sharpey; and Müller says, by Schroeder. I have also practically verified the position here taken—viz., that nutrition growth, and reproduction, are equally the functions of the organic nervous system, both by experiments on living animals and by observing the recovery of the demented and paralyzed among the insane, from various kinds of bodily injuries (including fractures) and disease.

Whilst, however, Müller contends for the reciprocal dependence of the organs, and of the cerebro-spinal nerves, on each other for their existence, he cautions his readers from concluding that the production of the former depends on the pre-existence of the latter. He truly says, "both organs and nerves are produced by the same power, the *nisus formativus*, which resides undivided in the germ."

ON EXTRACTUM CARNIS,

RECOMMENDED FOR ADMISSION INTO THE LONDON PHARMACOPŒIA, AS A MOST VALUABLE REMEDY IN THE TREATMENT OF DISEASE.

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THE healthy growth of plants, as well as of animals, depends entirely upon the materials which are afforded to them. Plants derive their food from the air and the soil; their growth increases or diminishes, in proportion to the abundance or the want of the organic, as well as of the inorganic, constituent parts of these. The formation of the embryo animal is the result of the contact of the two germinative substances, on the one hand, and of the afflux of the maternal blood on the other: its normal or abnormal progress depends upon the normal or abnormal constitution of those substances, and especially upon the quality of the maternal blood itself. The healthy growth of tissues in the extra-uterine life likewise depends finally upon the materials which are brought into the system as food; and as it is impossible for a child to be born healthy, unless the mother's blood is healthy, so it is impossible to keep up the state of health, in extra-uterine life, unless food be taken, in due quantity, and of a proper quality. These general principles are too well understood, at the present time, to require any further discussion. The physiologist knows that the formation of a large number of monstrosities, especially of those which are to be considered as retardations of development, are caused by diseases of the embryo, the cause of which cannot be looked for but in the blood of the mother; the pathologist is aware that a great many diseases exclusively depend upon an unwholesome quality or quantity of the food taken, or upon an undue proportion between the quantity of nitrogenous and non-nitrogenous substances.

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* See Dr. Cooke on Nervous Diseases, vol. i. p 130.

† It is by no means intended to affirm that the vital organs, as the stomach, lungs, &c., are in every respect out of the reach of cerebral injury or irritation. Such would be nonsense. The urgent dyspepsia which attends on studio-sedentary habits proves the sympathy existing between the brain and the stomach, equally with the effects of violent mental emotion on either the stomach or heart, &c., and conversely the great digestive powers of the North American savage, to whom letters are unknown. I have, too, cured a great number of insane people, whose cerebral disease has been exclusively dependent on disordered states of the abdominal viscera. See the works of Combe and Caldwell.

We are far from being at present acquainted with the chemical changes of the constituent parts of the system in diseases; a long time and indefatigable study are required, before we can arrive at this desirable state of science. However, there exists not the least doubt, that most of these chemical changes are owing to the want or the excess of some constituent part of the system. In gouty persons, we observe depositions of lithate of soda in the joints; an excess of nitrogenous substances in the blood, as well as of soda, must be the cause of them. In different pathological states of the system, we find exuberant enlargements of the bones: an excess of earthy phosphates, and especially of phosphate of lime, ought to be considered as present. A diminution of red blood-globules occurs in chlorosis; it seems to be the want of iron which causes this deficiency. We finally meet with a want of osseous substance in those patients who are afflicted with rickets, and I find that a want of phosphate of lime exists in their systems, large proportions of this substance being then eliminated from the economy by the urine.

But how are these excesses or deficiencies occasioned? I really cannot imagine that an abnormal loss or an excess of any material exists, if the materials are brought into the system in a normal quality or quantity, if the food is wholesome. I do not see any other way than that these losses or these excesses are produced, either directly by the food itself, or indirectly by pathological chemical changes, the origin of which is owing again to an unwholesome quality or quantity of food The cure of these states will never be afforded, unless we pay the greatest attention to diet, which alone is very often sufficient, either for removing a pathological excess, or an abnormal deficiency, of any substance. In one case, we shall accomplish our purpose by preferring animal diet; in another, by recommending vegetable food; in a third, a wholesome mixed diet is preferable; and in a fourth case, an excess of fat, taken as food, may be considered as of the greatest importance. In one word, diet is, and remains, our most powerful remedy in all internal derangements of the system. No conclusion can be drawn with more certainty than this—that if wholesome ingesta be the first condition for health, unwholesome ingesta must be the first impulse to disease.

However, we must confess that our dietetical principles are still most deficient. The recommendations of one sort of food or another are generally so superficial, so little founded upon chemical principles, that we cannot trust to them confidently. Hence arise those many variations in practice, hence that uncertainty in advice to patients, which too often is complained of by the latter themselves. We really must admit that very little has yet been done to promote the invaluable knowledge of diet; that we are still in the period of childhood with respect to this important branch of medical science. I do not hesitate to believe, that until we are exactly acquainted with the chemical constitution of the different kinds of food in different countries, we shall never succeed in advancing such principles as can be trusted to; and admitting that the differences between nitrogenous and non-nitrogenous substances are generally well understood already, attention must be directed more to the inorganic constituents of the food. It is remarkable how little attention has hitherto been paid to these substances; still their presence is quite as important to existence as that of the organic compounds. As in plants the inorganic constituent parts of the soil are indispensably necessary for the formation of vegetable acids and seeds; no vegetable acid being formed without the co-operation of the alkaline bases, no seed without the co-operation of the salts of phosphoric and sulphuric acid; so in animals the presence of alkali seems necessary for the formation of vegetable acid in the system, or the salts of phosphoric acid for the changes of nitrogenous substances. In a small work, "Ueber den Phosphorsauren Kalk in Physiologischer und Therapeutischer Beziehung," which I have lately published in Germany, I have tried to establish the fact, that the phosphate of lime is not only required for the formation of bones, but that it is likewise indispensably necessary for *the formations of cells*—the fundamental process of the growth of all tissues and organs. This formation of cells not only requires the presence of albumen, and fat, but it likewise depends upon the presence of phosphate of lime. We further know, that in administering a vegetable diet, we do not only diminish the quantity of nitrogenous substances, but at the same time produce an increase of carbon in the system; that, on the other hand, in giving animal food, the salts of phosphoric acid becomes predominant, and the augmentation of nitrogenous substance cannot be considered as its only effect. Hence we may conclude how important the inorganic constituents of food are: and whenever we shall arrive at a rational system of diet, we must direct the greatest attention equally to both its organic and inorganic constituents.

Now it is well known that many pathological states occur, in which, according to experience in practice and to chemical facts, an animal diet is indicated; we give eggs, oysters, milk, and especially meat, broth, beef-tea, &c.; it is our intention in these cases, to supply the system with all the substances which are contained in them, with their organic compounds, as well as with their inorganic constituent parts. But what we intend to do, we really often do not; and this is a point which has been almost always overlooked hitherto, although easily understood. It is our method of preparing the food which interferes with our intentions, and especially with respect to the meat. Professor Liebig has shown, in an excellent work, "Researches on the Chemistry of Food. Translated by Dr W. Gregory. London. 1847," that by the usual method of cooking we deprive the meat of many of its constituent parts, and that in administering the ordinary beef-tea, or boiled meat, we do not supply the system with all those substances which the meat originally contains. Liebig himself says, "It is obvious, that if flesh, employed as food, is again to become flesh in the body, if it is to retain the power of reproducing itself in its original condition, none of the constituents of raw flesh ought to be withdrawn from it during its preparation for food. If its composition be altered in any way, if one of the constituents which belong essentially to its constitution be removed, a corresponding variation must take place in the power of that piece of flesh to re-assume in the living body the original form and quality on which its properties in the living organism depends."

According, now, to the duration of the boiling, and the amount of water employed, there takes place a more or less perfect separation of the soluble from the insoluble constituents of flesh. "The water in which flesh has been boiled contains soluble alkaline phosphates, lactates, and inosinates, phosphates of magnesia, and only traces of phosphate of lime; the boiled flesh contains chiefly, with the fibrine, &c., the insoluble inorganic constituents, phosphate of lime, and phosphate of magnesia." "When, on the other hand, the flesh is introduced into the boiling water, the albumen immediately coagulates from the surface inwards, and in this state forms a crust or shell, which no longer permits the external water to penetrate into the interior of the mass of flesh. But the temperature is gradually transmitted to the interior, and there effects the conversion of raw flesh into the state of boiled meat. The flesh retains its juiciness, and is quite as agreeable to the taste as it can be made by roasting, for the chief part of the sapid constituents of the mass is retained, under these circumstances, in the flesh." "If, on the contrary, the piece of raw meat be placed in cold water, and this brought *very gradually* to the boiling point, there occurs, from the first moment, an interchange between the juices of the flesh and the water. The soluble and sapid constituents of the flesh are dissolved in the water, and the water penetrating into the interior of the mass, it extracts them more or less completely. The flesh loses, while the soup gains, in sapid matters; and by the separation of albumen, *which is commonly removed by skimming* (!!) as it rises to the surface, the meat loses its tenderness and shortness, as it is called, becoming tough and hard."

It is clear, that in the first way we obtain the best meat, and in the second the best soup. However, in order to obtain a boiled piece of meat or soup, (beef-tea,) the meat is commonly placed either in cold or in hot water, and *boiled for a long time*; thus the albumen coagulates, which coagulum is commonly removed by skimming; and as some of the insoluble salts remain in the flesh as long as it has not been squeezed, neither the obtained meat nor the soup alone contains the constituent parts of the flesh. Each of them, prepared by one of these methods, and taken without the other, is not adapted for nutrition, and especially with respect to the soup, (beef-tea,) with is so often prescribed for patients; this point should be always kept in view.

But, moreover, as there are many pathological states which do not admit of the patient taking boiled or roasted meat, such as stomach derangements, diarrhœa, ulcerations of the intestines, perforating ulcers of the stomach itself, &c.; and as it is most desirable, in many of these cases, to supply the system with all the substances which are contained in the meat, it is a most important object to have a preparation of meat, which not only contains nearly all the original constituent parts of the flesh, but also becomes easily assimilated, and does not require any exertion of the digestive organs themselves. This being out of question, we are much indebted to Professor Liebig for showing the way of preparing a sort of beef-tea, which accomplishes all the purposes alluded to; and as the above-mentioned work, in which the method of preparing this beef-tea has been described by Liebig, is not generally known, I shall shortly subjoin his description.

"One pound of lean beef, free of fat, and separated from the bones, in the finely chopped state in which it is used for beef sausages, or mince-meat, is uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid, after boiling briskly for a minute or two, is strained through a towel, from the coagulated albumen and fibrine, now become hard and horny. Thus we obtain an equal weight of the most aromatic soup, of such strength as cannot be obtained even by boiling for hours from a piece of flesh. When mixed with salt, and the other usual additions by which soup is usually seasoned, and tinged somewhat darker, by means of roasted onions or burnt sugar, it forms the very best soup which can in any way be prepared from one pound of flesh."

I have often used this beef-tea, and from what I have myself experienced I cannot recommend it too strongly. In many diseased states it is not to be replaced by any other sort of food or remedy. I have administered it in scrofula and phthisis, especially in those cases in which derangements of the digestive organs were present, such as ulcerations, dyspepsia, tubercular deposits in the intestinal glands, &c. I have given it in the early and later periods of typhus, and I scarcely trust in any medicine more than in beef-tea, in this disease. I have, further, supplied it to patients suffering from inflammation of the cellular tissue, and rapidly wasting away in consequence of the most abundant suppurations, and there cannot exist a more rational remedy than beef-tea, to compensate the abundant loss of materials. I have, finally, given it in many other states which required a good nourishment by animal diet, and almost all patients who are convalescent from severe diseases are most beneficially influenced by it. I need not enter into a more accurate explanation of the mentioned effects of the beef-tea; it is self-evident, that a substance, containing all constituent parts of the meat, both inorganic and organic, and not at all causing any exertion of the digestive organs to recompose into nutritive material, must be of such an effect as no other special remedy can be expected to manifest.

This being a fact, it appears to be most desirable, that the beef-tea, which I should like to call *Liebig's beef-tea*, should be well known to every practitioner, and should be always given wherever the state of the patient requires a good animal, nitrogenous food. However, as I have often experienced, one meets in practice with many difficulties in having it prepared, or provided at all for the patients, especially in dispensary practice, where poverty appears with all its sad consequences and companions, and where so many cases occur, requiring a nourishing, strengthening treatment; in advising patients to take meat, beef-tea, &c., we hear them too often answering, "we cannot afford it." In private practice, we find single persons confined to their bed-rooms, with scarcely any assistance at all; perhaps we order them to take the before-mentioned beef-tea, but it is beyond all possibility for them to have it prepared, as it requires some attention and carefulness. And even in family practice, it is necessary to describe each time the mode of preparing the beef-tea on the one hand, and questionable on the other, whether the attendants of the patient prepare it with that accuracy which is required for the accomplishment of our purposes. Hence, it appears as desirable as possible, to have an opportunity for easily providing patients of all classes with a sort of food and a remedy, which cannot be replaced by any other; and I do not see any better way for affording this opportunity, than to have the beef-tea prepared at the chemists' and druggists' shops. It must be mentioned, that the above-described beef-tea, when evaporated in a water-bath, and cooled afterwards, forms a brownish-yellow extract, and this extract, to which we may give the name of *extractum carnis*, should be prepared and kept for sale by chemists.

In accurately following the above described method of preparing the beef-tea, the quantity obtained out of six pounds of meat may be evaporated to three ounces, and those three ounces, after having cooled, form the "extractum carnis." One ounce of extractum carnis is therefore equal to thirty-two ounces of meat, whence it can easily be calculated how much of it is required for providing a patient daily with the constituent parts of three, four, five, six, or more ounces of meat.

The idea of having the extractum carnis prepared at the chemists' shops is not quite new. Dr. Von Breslau, of Munich, tells me that it is to be received into a new edition of the Pharmacopœia Bavariæ, which will be published in a short time; and he also states, that the extractum carnis does not undergo any change for years when kept in air-tight porcelain vessels.

As it is easy to adulterate the extract, "it ought to be easy for every well informed apothecary to distinguish the genuine extract from the false. Of the true extract nearly eighty per cent. is soluble in alcohol of eighty-five per cent., while the ordinary tablets of portable soup rarely yield to that menstruum four or five per cent. The presence of kreatine or kreatinine, (constituent parts of the juices of flesh,) the latter of which is instantly detected by the addition of chloride of zinc to the alcoholic solution (by instantly forming a precipitate of crystalline grains, appearing under the microscope as round masses, formed of very small needles concentrically grouped,) as well as the nature of the salts left on incineration, which chiefly consist of soluble phosphates, furnish sufficient data for judging of the quality of the true extract of flesh." (Liebig.)

With respect to the administration itself, it is scarcely necessary to mention that it is to be merely dissolved in hot water, and to be taken in this way by the patient. For improving the taste, some common salt, or caramel, &c., may be added.

That the extractum carnis must also be considered as of high importance for travellers, and especially for seamen, has already been mentioned by Liebig; they will always be provided thereby with a most wholesome nourishing food, which cannot be obtained so easily in any other way. The small quantity of six ounces of the extract is equal to a quantity of twelve pounds of meat. That, on the other hand, the tablets of so called portable soup, prepared in England and France, are not to be compared with the extract of flesh above described; that they do not answer at all the purpose of providing the economy with a nourishing wholesome food, has likewise been stated by Liebig. He says that these tablets are not made from flesh, but consist of gelatine, more or less pure, only distinguished from bone gelatine by its higher price; and although Dr. Gregory adds, that he has seen some specimens of portable soup, which while consisting chiefly of gelatine, yet had a strong flavour of soup, and probably, therefore, contained a certain proportion of extract of flesh, it is certain that these tablets are adapted for nutrition, only in an inferior degree.

To conclude: I have only to repeat, that we shall never arrive at a rational mode of treatment of diseases, unless we pay the greatest attention to diet, in such a way as has never been done hitherto. The inorganic constituent parts of the food have been almost totally overlooked, notwithstanding their importance is quite as great as that of the organic compounds. I cannot help believing that a time is coming when we may look on one or the other sort of food, as on the most powerful remedy—a time, when the single constituent parts of the animal system itself will be administered, according to the want or the excess of any of its substances, as remedies more powerful than the vast number of decoctions and infusions, the use of which too often shows the want of rational therapeutical principles.

I hope that practitioners will agree with me in wishing that the "Extractum carnis" may soon be received into the London Pharmacopœia. I have the less doubt that they will do so, as England is well known to favour propositions, the realization of which affords advantages and benefits to suffering mankind.

ON A CASE

OF SUCCESSFUL ADMINISTRATION OF THE KEY-TSE-SING, OR JAPANESE EMMENAGOGUE.

Communicated by E. Williams, M.D.

A short time since you favoured me by the insertion of a communication upon the advantages of the Japanese remedy, *Key-tse-Sing*, as an emmenagogue. I shall feel obliged by your insertion of the following letter from the physician of the Winchester Hospital, (Dr. White,) relative to its success in a most interesting and obstinate case. The following is selected from upwards of one hundred others, as the result of my offer to the profession, through your pages:—

"Winchester, Nov. 22, 1850.

"Dear Sir,—According to promise, I send you an account of a case, in which I used the Key-tse-Sing. I used, in this case, two-thirds of the bottle; and have commenced using the other part in another case, well adapted for its administration, but must request you to send me another bottle.

I am, dear Sir, yours faithfully,
A. D. White, M.D. (Cantab.,) L.R.C.P.,
Physician to the County Hospital, Winchester."

"Case.—Charlotte M——, a stout girl, with a florid complexion, twenty years of age, single, and lives at home with her mother. She was thirteen years of age when the catamenia first appeared, from which time, until she arrived at sixteen years of age, they appeared regularly, every three weeks, and lasted a week. About that time she gradually got out of health, through constant attendance upon her brother in his last illness; and after his death, she had occasional epileptiform fits for about three months. The catamenia then ceased, and have not returned since, except once, about a year ago, when she went into the country for change of air. From the cessation of the catamenia, nearly four years ago, until the present time, she has generally had either epistaxis or hæmoptysis every three or four weeks. During the first part of the time it was always epistaxis; but latterly it had been generally hæmoptysis. Her chest is well developed, and careful and repeated auscultative examination has failed to detect any sign of tubercle.

She has been under my care for some months, as an out-patient of the County Hospital; but I completely failed in my endeavours to restore the catamenial discharge, although, in addition to internal treatment, she had hip-baths, vaginal enemata of mustard-water, leeches to the vulva, and currents of electricity passed through the pelvis every three or four days.

All having failed, after six months' time I resolved to make an experiment with the Key-tse-Sing. On Nov. 6th she commenced taking three drachms of this medicine, every six hours, in a little hot gin-and-water, and continued to do so for three days, when, not having experienced any effect from it, except some pain in the back, she omitted it for two days. I urged her to persevere with the medicine a little longer, and she recommenced taking it every four hours. On the second day (Nov. 13th) the catamenia appeared, and flowed normally for three days.

She felt no inconvenience from the medicine, except some slight pain in the back."

Remarks.—I will not occupy your pages by any lengthened remarks. I am justified in concluding from the above, and the numerous other reports I daily receive, as well as from cases in which I have had an opportunity of exhibiting it in my own practice, that this remedy will prove one of the most certain and valuable additions to our materia medica; and the only fear I have in its introduction is, that it may be abused, and become the too ready instrument of procuring abortion. I shall, however, for the present, make such arrangements as will, I trust, prevents its abuse, while its legitimate purposes will meet with no obstacles.

ON A CASE OF

INSANITY CAUSED BY TAPE-WORM, AND CURED BY KOUSSO.

By William Wood, M.D.,

Resident Physician of Bethlem Hospital.

To the Editor of The Lancet.

Sir,—Having read in The Lancet the reports of several cases in which Kousso had been successfully employed for the cure of tape-worm, I thought it right that a patient whose insanity appeared to depend on the irritation arising from the presence of tænia, and whose case had resisted all the ordinary means of treatment, should have the benefit of an experiment with this new remedy. Accordingly, with the approval of Sir A. Morison, a dose was procured from Mr. Hooper, of Pall-mall-east, and administered according to the directions which accompanied it. The history of the case and the result of the trial are so interesting and satisfactory, that I have thought you might consider it of sufficient importance to add to those you have already recorded of the effects of Kousso; and in forwarding the particulars I am bound to acknowledge my obligation to The Lancet for information, the application of which has resulted so satisfactorily.

I am, Sir, your obedient servant,

William Wood, M.D.,

Licentiate of the Royal College of Physicians.

Bethlem Hospital, Oct, 1850.

Case X.—A male patient, aged 32, was admitted into the hospital in January, 1849, under the care of Sir A. Morison. He was a temperate, an industrious, and a very respectable mechanic, unmarried, and had always enjoyed good health until three or four years ago, when he first began to suffer from indigestion and headache, with general debility, and a sensation of swimming and confusion in his head. About the same time he began to pass portions of tænia, never, however, of greater length than a few inches. The uncomfortable sensations already alluded to were most distressing after his dinner, when the sensations of fulness in his head, confusion and trembling of the whole frame, were particularly severe. Any excitement, particularly if sudden, quite unnerved him, and he was so disturbed that he was unable for some time afterwards to collect his ideas sufficiently to know what he was about. His general health became affected, he lost flesh, and his appetite was very bad. About a year and a half or two years after the first appearance of these symptoms he began to get so weak that he could not attend to his work as before; and though he persevered with all his energy, he was frequently compelled for a while to desist, in consequence of this weakness, together with a drowsiness which he could not shake off, and which occasionally overpowered him. It was not, however, until three or four months before his admission that he was obliged to discontinue work altogether, and from that time he continued to get worse until he felt quite unable to rouse himself to any exertion, and he would, if allowed, remain in bed for days together.

It was stated, on admission, that his manner and behaviour were quite different from what was natural to him when in health; that he was silent, and incapable of doing anything, and was also dangerous to himself. There was no hereditary predisposition to insanity, nor were his friends able to assign any other cause than irritation arising from worms. After admission, he continued rather depressed, and unable to exert himself, but was quiet and orderly, and perfectly rational in his conversation: he did not labour under any delusion, but complained of pain in his head, and the other symptoms which have been already described. To this he attributed his depression, and said he felt low-spirited and unable to attend properly to his employment. He took his food tolerably well, but slept indifferently, and the least noise disturbed him. He occasionally passed portions of worms, and sometimes there was a considerable interval without any. His general health improved at the same time; he became more active; and appeared to be doing so well, that he was discharged on the 6th of July. He has since stated that he then felt pains in his head with occasional confusion and want of confidence in himself. After leaving the hospital, he went into the country to visit some relatives, in the hope that country air and change might still further improve him; in this, however, he was disappointed, and he returned home still unable to undertake his ordinary work, but he occasionally employed himself at home at his trade, more, however, for the sake of amusement than with any hope of being able to make it a source of profit, or the means of living. The sensations, which had never altogether subsided, soon became as troublesome as ever, and after being absent from the hospital about three months, he was readmitted very nearly in the same condition as when he first became a patient. It was now stated that he frequently complained of pains in the fore-part of the head, and would remain inactive, sitting or standing the whole day, without speaking a word, or taking any notice of anything. His health was described as "rather weak," and he was considered dangerous to himself.

His symptoms while in the hospital were precisely the same as on the occasion of his first residence here—silent, inert, and rather more depressed, but rational, and free from delusions. His appetite was capricious, being sometimes deficient; at other times he had an unnatural craving for food, and the distressing sensations in his stomach and head, from which he was never altogether free for the whole day, were aggravated by eating. He did not sleep well, and his rest was constantly disturbed by frightful dreams. Temporary relief was obtained from the troublesome symptoms of tænia which had so long distressed him by the various remedies which were tried from time to time, particularly by full doses of oil of turpentine, but the relief was only temporary, notwithstanding that large quantities of the worm were occasionally voided. He was, however, generally improved, but still somewhat depressed, evidently without any confidence in himself, and unwilling to return home, though quite rational, and able to work regularly in the workshops of the hospital. The twelve months' residence having expired, he was recommended to have another three months granted, which was accordingly done; at the same time, permission was granted by the committee to try the effect of the kousso, which was then believed to be between £2 and £3 a dose, but which I found had been very considerably reduced.

The dose consisted of a brownish powder, which nearly filled a two-ounce bottle. This, according to the directions, was infused for a quarter of an hour, in warm water, and the whole well mixed with the water, administered to the patient fasting, who was also directed to suck the juice of a lemon before and after each mouthful or two. In about two hours after taking the kousso, he passed a relaxed motion, without any appearance of tænia, and in another hour after this, the worm came away, apparently entire, enveloped in mucus, but without any fæcal matter. He experienced no pain or inconvenience of any kind during the operation of the remedy, but after passing the worm, he thought he felt rather more faint than usual, but this being a sensation he very commonly experienced, he did not think it any thing unusual. The tænia was four yards long, the greater portions consisting of flattened joints, the extremity being prolonged into a fine flattened band; the divisions or joints observed in the larger portions were very much less distinct as they approached the extremity. The following day he had lost his headache, and all the disagreeable sensations, from which he had never been free for a single day, since his first admission into the hospital; his head felt clear and light, his appetite improved, and he has since slept without the frightful dreams which have so long disturbed him.

25th.—Reported convalescent. There has been no return of the unpleasant symptoms under which he so long laboured; but one remarkable circumstance is worth recording; although the horrible dreams and painful sensations have ceased, he continues to dream; and where there was formerly pain, he now experiences uneasiness,—showing how impressions which have been long continued become habitual, and persist, in a modified manner, although the cause has ceased to operate.

PRACTICAL ILLUSTRATIONS OF THE REMEDIAL EFFICACY OF A VERY LOW OR ANÆSTHETIC TEMPERATURE.—I. IN CANCER.

By James Arnott, M. D.,

Physician to the Brighton Dispensary.

(Continued from January No., p. 38)

The benefit derived from congelation, in the case of uterine cancer just related, is not only very superior, but almost forms a contrast, to that usually obtained by other palliative means. Besides that the relief from pain is more complete and lasting than that obtained by the preparations of opium, it is gained without the stupefaction and sickness that generally attend the use of these; and instead of shortening life, by the disturbance of its functions, as these and other palliatives most unquestionably do, congelation will much prolong it, and prolong it in comfort, by arresting the course of the disease. Whether more is to be expected from it—whether, in the earlier stages especially, it may not possess energies equal to the complete removal of the disease—is a point that must be decided by further experience.

It has been a question, whether certain diseases, such as pulmonary consumption and cancer, which have been found to resist all the methods of treatment hitherto employed, are not necessarily fatal or incurable by the powers of Nature or by Art. As respects the remedial powers of Nature, this question may, unless certain observers have been much deceived, be answered in the negative. Of cancer, at least, many natural cures have been recorded; and it is, moreover, in opposition to analogy, to suppose that any morbid condition of the body is necessarily incurable.*

Another question, on which the opinion of inquirers have been much divided, and which bears closely upon the efficacy of the local remedies of cancer, is that respecting the seat of the disease—whether this exists in the constitution as well as in the part manifestly affected. Late microscopical investigation, by Müller and others, has thrown considerable light upon this point, by showing that cancerous growths consist, in great part, of a congeries of peculiar cells. As these morbid cells, possessing inherent vitality, may be regarded as a species of parasitic animalcule or hydatid, the oldest hypothetical notion of the nature of cancer appears, curiously enough, to have received a foundation in the latest anatomical researches.

The remedies that have been employed in cancer, may be divided into two classes—the empirical, or rational; in other words, into those that have been tried independently of any directing and reasonable theory, and those to which the practitioner has been led by his knowledge of the nature of the disease, or, at least, of some of its concomitants. Valuable as empirical practices have occasionally proved in medicine—in evidence of which the instances of the use of bark in ague, and lemon-juice in scurvy, may be adduced—they have, though very numerous, been utterly without value in cancer, and consequently require no further notice. The rational practices may be divided into the following:—

1. Means of subduing inflammation. Athough the notion which some have entertained, that cancer originates from, or is dependent upon, inflammation, is probably erroneous, it is certain that inflammation accompanies the disease, and doubtless hastens its destructive progress. Hence such measures as will subdue or moderate inflammation are useful, when they do not produce debility or other injurious effects. Bleeding, and the application of heat or cold, are amongst the principal remedies of this class.

2. Narcotics are obviously useful in moderating, though they seldom can completely subdue, the attending pain. Their accompanying and often counterbalancing evils have already been noticed.

3. The medicines which have been employed as alteratives cannot be altogether deemed empirical, as it is reasonable to suppose, that whether a constitutional taint exist or not, some alteration of the animal fluids or solids might prove of service. The whole of the more powerful remedies of this class have been used, and some with temporary high renown; but in none is the least confidence now placed.

4. Extirpation or ablation, and the destruction of the part by burning or chemical means, are measures which, when practicable, as they generally are in external cancer, would naturally at first occur as the most certain means of cure. But the practice of destroying the part by caustics, or the actual cautery, has been condemned, as much on account of the pain and danger accompanying such proceedings as for their inefficacy; and the removal of cancer by the knife has, it is too probable, owed the principal part of its reputation to the surgeon's mistaking other tumours for cancer. The lately published results of careful statistical inquiries have been very unfavorable to the character of this operation. Dr. M'Farlane, of Glasgow, states, that of thirty-two cases of well-marked carcinoma of the breast, which were operated upon by himself, and

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* Several instances of natural cure are recorded in Professor Walshe's work on Cancer. While medical superintendant at St. Helena, my opinion was asked respecting the contemplated amputation of a diseased breast, in the case of a lady, whose sister had died, a few years before, of cancer in the same situation, and after the operation had been performed. At that time a more favorable opinion of the efficacy of the ablation of cancer was entertained than now; and as the tumour had all the usual appearances and symptoms of cancer, in a very marked degree, I entirely coincided with the surgeons in attendance, that the tumour should be removed by excision. The patient, however, who had witnessed this operation performed on her sister, and who knew how useless it was, would not be persuaded to submit to it, and very soon desisted from every attempt at cure. The pain soon after this gradually subsided, the swelling decreased, and nothing of the disease at length remained but a slight hardness, causing little or no inconvenience

eighty-six cases that were operated upon by his friends, not one was permanently cured. And he is, moreover, of opinion, that amputation, "while it never arrests, almost uniformly accelerates, the progress of the disease" Professor Walshe concludes an inquiry into this subject, by the statement that, "from the facts, figures, and inferences brought forward, the conclusion is inevitable and imperative, that extirpation of cancerous growths with the knife can neither be regarded as a means of curing cancer, nor of prolonging the existence of persons affected with the disease." Does not this unfavorable issue of the operation of excision of cancer depend upon the extreme difficulty of thoroughly eradicating the disease by the knife, which may nevertheless be of a local character? The return of the disease to the same place would render this explanation not improbable.

5. Pressure is the remedy which next claims our attention. It was introduced into the treatment of cancer, by Mr. Young of London; was extensively and very beneficially employed by Professor Recamier, of Paris; and of late years has been much improved in the mode of its application, and with proportionate advantages as a remedy. Pressure evidently cuts off, in a great measure, the supply of nourishing blood to the tumour; and, in the opinion of Professor Bennett, of Edinburgh, retards the growth of the cells constituting cancer by depriving them of space to enlarge in.

6. Cold has already been adverted to as a remedy of cancer in the consideration of the means best fitted to subdue inflammation; but it is calculated to fulfil other purposes. It is well known that a certain degree of temperature is necessary for the maintenance or vigour of both animal and vegetable life. "In a cancerous growth (says Professor Bennett, in his recent and excellent work) the tendency of which is to excessive cell-formation, we evidently retard its advancement by the application of cold. Were it possible, indeed to bring down the temperature of an entire growth below the vegetating point, we must inevitably kill it; but supplied as it is through the warm blood within, this is impossible. Still the external application of cold is one of the most powerful means we possess of retarding the progress of a cancerous or any other growth.[*]"

As a means of applying cold in cases of external cancer, the same writer adverts, in favourable terms, to the apparatus alluded to in a note to the preceding paper, by which a low temperature can be uniformly and long maintained, and at the same time be conjoined with pressure. In the appendix to my Essay "On the Present State of Therapeutical Enquiry," I included this amongst other probably useful applications of the "current apparatus," and I have since had an opportunity of ascertaining its value in practice. The instrument is much more easily managed than at first might be supposed. The vulcanized caoutchouc tubes through which the current passes to and from the pressing water-proof bag, may be easily detached from the reservoir and waste vessel by the patient herself, if she wishes to rise from the sofa; and the current can be as easily re-established.

Having now passed in brief review the several rational measures which have been used or suggested in the treatment of cancer, we shall be better able to form a correct opinion of the mode in which congelation operates so beneficially as a palliative, and of the probability of its proving an effectual cure of this disease. As a palliative, it fulfils most completely the purposes of the first two classes of remedies just enumerated—viz., those possessing antiphlogistic and anodyne properties, and, unlike these remedies, it fulfils them without any counterbalancing injurious properties.

If cancer were essentially an inflammation, according to the doctrine of Broussais, there would be little doubt that congelation would, in many of its localities, prove a cure, for no inflamed part which can be put thoroughly under its influence will resist it. Or if the opinion of Professor Bennett be correct, that a "temperature below the vegetating point must inevitably kill cancer-cell," and if it be true that cancer-cell constitutes the disease, we might reasonably indulge the same hope. At all events, as congelation surpasses in power every local theraupeutical agent which does not actually destroy the animal texture, we may safely, from this, together with other considerations, conclude that no remedial means hitherto proposed is, under any management, so likely to afford an effectual cure.

The case, it may be said, which has been related in the preceding paper, however confirmatory of the statement that congelation is an excellent palliative of cancer, does not strengthen the hopes, founded on the above considerations, of its proving curative; for the patient is represented as still being affected with the disease. In answer to this, it must be mentioned, that the disease was far advanced before the treatment by congelation was had recourse to; and that, probably, to prove curative as well as palliative under such circumstances, either a stronger frigorific must be employed, or the same must be employed for a longer period on each application, or be more frequently repeated. How long congelation, effected by the means which I have described, can be continued without injury to the parts, I have not determined. I can only say, that as I have never yet produced any injury by the longest congelation which I have deemed necessary to effect other remedial purposes, I think it probable that cancer may be safely subjected to twice or three times a longer period than any I have hitherto tried, and that much stronger frigorifics might be safely used. Even solidified carbonic acid might, perhaps, be rendered available. The case reported is, therefore, by no means unfavorable to the supposition of the curability of cancer by congelation. On the contrary, the extraordinary power which is shown by the case to have been exerted by this remedy in its palliative operation, would lead to a very different conclusion.

In estimating the effect of the application of frigorific mixtures to the animal tissue, it is highly necessary to take into account the condition of the part subjected to them, in respect to its own vascularity, and the vascularity of the neighbouring parts, and as to whether it be in a state of inflammation or not. A highly vascular or inflamed part necessarily requires, in order that the same effect should be produced, a much more powerful congealing agent than a part in the reverse condition. Although five minutes is the usual period of the congelation which I apply to the exterior of the body, when the skin and subjacent tissues are in their normal state, it was, as has been related, continued from fifteen to thirty minutes in the case of uterine cancer, and probably not with half the effect as when it is applied to the exterior, on account of the higher vascularity and natural heat of the part subjected to it. The difference between the periods mentioned was owing to the more or less perfect application, the time required to relieve the pain, and sometimes to the appearance of the congealed part.

Various modes of applying frigorifics to cancer must be employed for its various localities. That which has been described is perhaps the most complicated.[*]—When the cancer is on the exterior of the body, the frigorific can be easily applied by the small net which I have already described in speaking of the use of congelation in neuralgia and diseases of the skin. As an illustration, I will very minutely describe its application to the case of cancerous breast, in the Middlesex Hospital, alluded to in the former paper.

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[*] Dr. Bennett on Cancerous and Cancroid Growths, p. 228.

[*] Cancer is not the only disease of the womb to which congelation may be thus applied with advantage; and by means of a frigorific mixture contained in a thin tube, of the diameter of the common speculum, and having its end closed and rounded, congelation can be conveniently used in inflammatory affections of the vagina.

It was made on the 22nd of June last. The patient (an elderly woman, of the name of Pocock) had long suffered from severe and almost continuous pain. Her breast was ulcerated, but not much enlarged. About half a pound of ice having been put into a towel, and broken up into powder on the floor of the ward, by means of a flat iron, was quickly mixed in a jug with about half the quantity of common salt. The mixture was then poured into a small net of the thinnest silk gauze, and immediately applied to the breast, over a circular space of about four inches in diameter. The brine, as it trickled from the net, was absorbed by a moist sponge held underneath; and the net was occasionally raised for the double purpose of inspecting the breast (as the surgeon who had kindly permitted the application, and his assistants, were naturally anxious to watch the effect) and of stirring the mixture. The skin became white in a few seconds, and the congelation was continued for precisely three minutes. There was a slight pricking sensation produced for about half this period, which ceased upon the part becoming benumbed; and a similar sensation was experienced for some minutes after the congelation had ceased, although the greater part of what is usually felt at this time was prevented, by keeping the part covered for about five minutes with the ice net, (after washing out the salt,) and by the subsequent application of a rag dipped in cold water.

I did not see the patient again until the 6th of July, —fourteen days after the application,—when she told me that there had not been the least return of pain.— The sore on the breast was clean, and even healthy in appearance; and nothing but the common water-dressing had been applied. There had been no necessity for a repetition of the morphia, to which she had been so long accustomed.

In cases of this description, it would probably be wrong to wait for a return of pain as a sign for the re-application of the frigorific. The disease may advance without the accompaniment of pain; for it is well known that some cases of cancer are attended by little or no suffering. The congelation is demanded to stay the irritation, and the progress of the malady, as much as for the alleviation of pain.

In order that the frigorific mixture may be perfectly applied, it is necessary that the diseased surface should be in a horizontal position; and where it is denuded by ulceration, a thin membrane spread over it might act as an artificial cuticle, and prevent the smarting which the contact of the salt would otherwise produce before the production of anæsthesia.

Congelation need not be confided in exclusively. Several of the measures enumerated above may be used in combination; and equable and easily controllable pressure, whether by itself, or conjoined with cold, is, as respects many localities, one of the principal of these.

It is an important fact, that cancer of the womb, in which pressure can hardly be employed, should, in cases to which the operation is applicable, have (probably from the isolated nature of the prolapsed organ) been more successfully treated by amputation than cancer occurring in any other locality The misfortune is, that the cases are rare in which this operation can be resorted to. If the womb be forcibly dragged out before the excision is made, or extirpated while in its ordinary situation, death (as ample experience has shown) is almost the inevitable and immediate consequence. Yet, when we consider that a womb which has become prolapsed from natural causes may be removed with very little danger, (a fact attested by numerous examples,) it becomes an interesting question, whether, in the early stages, and before the disease has extended to the adjoining parts, it might not, supposing all other means should fail in arresting the malady, be very gradually, and without irritation, brought into the same favourable position. If natural prolapsus of the womb mainly proceed, as is commonly supposed, from relaxation of the vagina and the external parts, this relaxation could be easily effected by the use of such a fluid dilator of equal pressure, as I have, on another occasion, suggested (and which I have myself employed) as a substitute for the forceps, or for excitants of uterine contraction, in cases where the birth of the child has been opposed by the most common of all causes of protracted labour—the unyielding of the external parts.

(To be continued)

CHOLERA IN JAMAICA.

AN ACCOUNT OF THE FIRST OUTBREAK OF THE DISEASE IN THAT ISLAND IN 1850.

By J. Watson, Esq., Surgeon of the Naval Hospital, Jamaica.

The ancient but decayed town of Port Royal consists of perhaps the filthiest collection of hovels, occupied by the filthiest inmates, which the whole civilized world can show. It is built on a peninsula of sand, which is only about two or three feet above the sea level. Any rain that falls soon percolates through the sand; the sea-breezes blow constantly by day, and in general the place is looked upon as salubrious for Jamaica, in spite of its filth. Indeed, it is frequently resorted to by invalids from other quarters, for the sake of its fresh sea-breezes. By the last census, the population was between 900 and 1000. The past summer was unusually rainy, and the tides, in the latter part of September and beginning of October, were uncommonly high, two circumstances which rendered the ground floor of houses damp. It is the practice of the great majority of the natives to sleep on those floors, with nothing more than a mat under them, and commonly in the same rags which they wear during the day. The doors and windows are shut, and from six to twelve persons are thus pent up in a space less than is comprised in the dimensions of a common sitting-room. The temperature in the shade, during the day, has averaged 88° Fahr., and a few degrees lower at night, and the barometer was observed to range lower than usual. The natives, who are of all shades of colour from black to white, but mostly black or dark brown, live chiefly on fish, salt or fresh, and large quantities of the crude vegetables of the country, such as yams and plantains. Drunkenness is not particularly their besetting sin.

Everything being thus admirably disposed to encourage the full development of any pestilence, I was, on the 7th of October, requested to see a woman, about fifty years of age; she complained of having been purged the preceding night, and was, when first seen, cold, and had cramps of the extremities. She was also passing upwards and downwards the rice-water-looking fluid characteristic of Asiatic cholera. She died the same day. At this time, no one entertained any suspicion that such a pestilence was hovering over the island. In consideration of the mischief which would be caused by the announcement that cholera had appeared, if it should turn out to be unfounded, the coroner, who was furnished with a written statement of the case, consented to dispense with an inquest.

On the night of the 7th and on the 8th two other persons became affected with similar symptoms, in the same neighbourhood, and died rapidly. After making two post-mortem examinations, I reported formally to the authorities that malignant Asiatic cholera existed in the town. At first the report was received with incredulity, and was poo-poo'd; but the danger of the reported calamity was too terrible to permit it to be disregarded. The custos of the parish (I believe this official corresponds with our lord lieutenant of a county) and some medical gentlemen were deputed from Kingston to investigate here, when only the three cases above mentioned had occurred.

I am not quite certain whether they were at once convinced when I detailed the histories of those cases. However, the disease very quickly spread abroad through this town in such a way as to be unmistakable. In less than a month it destroyed upwards of 250 of the inhabitants, or one-fourth of the entire population.

About a week or less after cholera appeared in Port Royal, a few stray cases were reported in Kingston, a large city of 50,000 inhabitants, situated at the head of the harbour. Somewhat later, it was found in Spanish Town, which is the capital, and which is about twelve miles from Kingston inland; and simultaneously the low-lying villages on the plain, and near the margins of this extensive harbour, were most severely attacked. Cholera gradually advanced into the central parts of the island, and is reported to have reached the towns on the north side.

In Kingston and Spanish Town, which I think might successfully dispute with Port Royal its acknowledged pre-eminence in filth, fœtor, and all unwholesome abominations, and which are so far worse because they are much larger there, in both towns, the mortality has been terrible, but it is yet of unascertained magnitude, and unchecked.

There was of course very soon a general panic. Some said the disease was imported by the medium of contagion; there consequently appeared in many places great unwillingness to attend to the sick, and even difficulty in procuring people to inter the dead. The latter were reported, in many instances, to have been cast away in by-places to get rid of their bodies, and they were only discovered by the John Crows, or carrion crows of the island. Husbands refused to put their hands on the dead bodies of their wives to lift them into coffins, and even mothers deserted their children when the latter took the disease. Such were the mature fruits of teaching the people to believe cholera to be contagious. In Port Royal, where we preach I believe a truer and certainly a more comforting belief, the poor people showed no unwillingness to help one another in their deep distress.

I do not propose now to attempt a medical history of this epidemic. The symptoms in the persons attacked here were similar to those which I witnessed in Lisbon in 1833, and which are reported to exist in cholera patients in all parts of the world. The treatment has embraced the usual remedies, and they have in most instances been equally ineffectual here as elsewhere after the disease fairly developed itself. My present object is to throw as much light on the statistics of cholera in Jamaica, on this its first visit to the colony, as my opportunities of observation and my abilities will permit me to do.

For many months past, American steamers have been in the custom of touching here and at Kingston on their voyage between New York and Chagres, for the purposes of coaling, receiving and discharging passengers, &c. Their passengers and crews landed, of course, at both places.

About a week before cholera appeared in Port Royal, two young men arrived from Chagres at this place. They reported that their father died of cholera at Chagres shortly before they left. Those two were the only individuals, so far as I can learn, who, about that time, became resident here after returning from Chagres, where cholera was said to exist, and they were suspected to have introduced the disease. They both laboured under common intermittent fever on their debarkation, for which I attended them, and they were soon restored to perfect health, after taking some doses of quinine. No case of cholera has up to this time occurred in their house, nor in the two adjoining houses, right and left of théirs. No ship is known to have arrived in this port with a case of cholera on board, or which has had any one ill of that disease during the voyage from Chagres, or elsewhere, to Port Royal.

The disease exhausted itself here in less than a month from the date of its first appearance. Nine medical officers were assiduously employed for that space of time, day and night, attending to the sick in the fœtid hovels of the town and in the hospital, not one of whom was seized. There is here a small respectable community, belonging to the church, the navy, and army, who, with their families, are placed in circumstances favourable to health. Not one of them has yet taken cholera, nor any member of their families, although they formed part of a community which was losing one-fourth of its number.

In Spanish Town and Kingston, the well-fed and properly housed portion of the inhabitants have not experienced the same immunity, as many of them have died. It may be observed, however, that persons of a similar class here are generally in the prime and vigor of life, as they are necessarily occupied in the performance of duties which could not be discharged at the advanced age to which many of the respectable civilians in the island have attained. Moreover, the persons alluded to here are mostly unmarried, and have therefore less of the class of young children and other predisposed individuals among them.

On the first outbreak of cholera, the Naval Hospital contained about thirty patients, most of whom were far advanced in convalescence from intermittent fever, which they had contracted in the *Bermuda* schooner, at Grey Town, Nicaragua. One of them died of cholera.

Five days after cholera showed itself, the *Indefatigable* frigate arrived, also from Grey Town. Her crew was sickly, from a similar fever to that with which the *Bermuda's* people were affected, and it was contracted at the same place. Her men, however, were very weak on their arrival; whereas the crew of the *Bermuda*, as has been just stated, was nearly restored to health.

We are quite accustomed, in this hospital, to the type of fever which generally prevails in ships returning from Nicaragua: it is, when the patient's reach this place, usually intermittent, manageable, and curable by proper nourishment, quietude, and medicine.

The *Indefatigable* sent to hospital, at this unfortunate junction, 121 patients. They did not convalesce well, and most of them had diarrhœa. Twenty-nine men died from the undermentioned causes—viz., Seven of uncomplicated fever; eight of pure cholera, sent in the first instance as such from the frigate, which did not allow communication with the town; thirteen, first admitted for the cure of fever, who afterwards were seized with, and died of, cholera; and one man who was sent to the hospital as a nurse, who became the subject of cholera.

In the meantime, seven persons belonging to the hospital staff died—viz., Five nurses—men taken from the same class of the natives, who were then dying in numbers in the town; one washerwoman, a debilitated old creature; and the cook, an old discharged soldier.

On the 12th inst., the sloop *Persian* came into port from Grey Town, and her men had suffered more than had the crews of the *Indefatigable* and *Bermuda*, because she had been employed there more than thirteen weeks, a much longer period than either of the other two vessels. The *Persian* had lost many of her men from fever, at Grey Town, and on her voyage to Port Royal; and on her arrival her officers and people were universally affected with aguish ailments, or with debility arising from former attacks of fever. She arrived here a few days after patients had ceased to die of cholera in the hospital, and before the mortality had quite terminated in the town, and has had up to this time sent fifty officers and men to the hospital.

The *Persian's* patients were of necessity placed in the same wards in which cholera patients had recently died, and which still contained patients convalescent from cholera: they were attended by the same nurses and medical officers, and were surrounded by every circumstance conducive to the *contagious* extension to them of cholera. Not one of those men, up to the present time, has been affected with that disease, and their convalescence has been generally very favourable. Only one man died in hospital, and he was admitted moribund, affected with fever.

To recapitulate: *Bermuda's* people, being nearly restored to health, before cholera appears, lose only one man in hospital.

Indefatigable comes in when the disease is raging with the utmost virulence in the place, and suffers very severely.

Persian arrives when cholera has ceased, or nearly, on shore, and although her patients are exposed to every imaginable source of contagion, they totally escape contamination, and have convalesced as favourably as such patients usually do.

I cannot reconcile those very remarkable and interteresting facts with the opinion which a great number of people entertain, that contagion has been the principal agent in the spread of cholera in Jamaica. On the contrary, I think they prove, that if it acted at all, it played only a secondary part, and that some totally different influence mainly directed the march of the present fatal epidemic.

Certain learned Pundits tell us that the contagion of cholera is so virulent as to attach itself in some miraculous way to two lads, who, however, are not themselves attacked; that these two individuals carry their invisible charge through a sea voyage, and then contaminate the whole population of Jamaica. Will they be pleased to explain how it happened, that, if this contagion be so virulent, fifty highly predisposed men were thrust into hospital wards which were still reeking with the emanations from the bodies of cholera patients, and that not one of them took cholera?

While the above-mentioned melancholy scenes were being enacted in the town, and in the hospital, the soldiers in the garrison, white and black troops, who with their wives and children amounted to about three hundred individuals, became subject to the disease, and lost in a few days, I think about eighty out of their number. They were marched to Stoney-hill barracks, which at the time was very deficient in sleeping accommodation, and in every way less comfortable than the quarters they left. The march (through a swampy country) of twelve miles or thereabout, was performed under a heavy incessant rain. The change under these adverse circumstances was so beneficial, that the pestilence was checked among them.

REPORT OF A CASE OF BIFURCATED EPIGLOTTIS.

By W. Hargreaves Manifold, Esq., Liverpool.

As the following case presents a peculiarity of formation which I find nowhere mentioned, it is perhaps worth insertion in The Lancet:—

A child was attacked with laryngismus stridulus within the first week after birth, from which affection it suffered repeatedly till its death at four months old; treatment afforded but little relief to the attacks; the head showed no signs of congestion; the bowels were regular, and it was fed entirely from the breast, so that the cause of the affection remained unknown. But about a week before its death, on examining the tongue, and depressing it somewhat forcibly to examine the fauces, two little horns were observed at its root, and were found, on closer examination, to be the bifurcated epiglottis, forming, indeed, almost two distinct valves. To this malformation the laryngismus was then referred. I had not the opportunity of a post-mortem examination, and therefore can elucidate this case no farther. Perhaps some of your readers may, like myself, not have heard of such a peculiarity.

A Mirror

OF THE PRACTICE OF

MEDICINE AND SURGERY

IN THE

HOSPITALS OF LONDON.

GUY'S HOSPITAL.

Tetanus from the laying open an Inflamed Bursa.

(Under the care of Mr. Hilton.)

It is very humbling for the profession in general that so little should be known regarding the nature of tetanus; but it would be erroneous to consider the disease as a perfectly sealed book; on the contrary, such obscure subjects as epilepsy, catalepsy, fever, the action of morbid poisons, the use of the spleen, thyroid body, supra-renal capsule, pituitary body, &c., offer an extensive field for the mental activity of the younger members of the medical body, whose energy and intellectual powers will find abundance of healthy exercise in these investigations. Tetanus, which has hitherto proved so fatal, ought to be especially studied, both for the love of science and the preservation of life. Of the various points connected with the disease, the best known is the peculiar kind of wound which is most likely to give rise to it; and yet cases will occur, where the affection is excited by a cause which, *à priori*, would hardly have been suspected of possessing such power. Mr. Hilton, for instance, had lately under his care a young woman, who fell a victim to tetanus after an incision made into an inflamed bursa, an operation which we have frequently seen performed with the best results. Will not such a case go far to prove that predisposition has an immense influence upon the development of the disease? Look at Larrey's patient, who was attacked with tetanus from a slight laceration of the throat by a fish-bone; or at another case, which occurred in a metropolitan hospital, where the patient had had his nostrils plugged for epistaxis: a catheter, armed with a stilette, was introduced into the nostril, to remove the plug; and as the instrument passed along the floor of the naris, it just scratched the turbinated bone; tetanus came on, and the patient sank. Must not these men have harboured a mysterious predisposition to spasmodic disease in their constitution, or rather in the intimate structure of the medulla spinalis? But why should these slight causes act more frequently in hot climates than in our temperate latitudes? Is it because the more rapid circulation renders the system more excitable? Yet we do not find, in this country, tetanus much more frequent in the summer than at other periods of the year,—especially if we may be allowed to judge from the number of cases we have lately observed in different metropolitan hospitals, one case having occurred, last summer, at King's College; another at St. Bartholomew's; and, this winter, one at St. Thomas's, and a second at Guy's. We proceed to give a few details of the latter, from the notes, very carefully and accurately taken by Mr. Pavey.

Mary-Ann B——, twenty-three years old, married, of a sanguineous temperament, an excitable, hasty disposition, and of great nervous susceptibility, was admitted September 25, 1850, under the care of Mr. Hilton, with an inflamed swelling over the anterior surface of the patella, attended with considerable febrile disturbance. Eight days afterwards, there being fluctuation in the bursal swelling. Mr. Hilton laid it open by means of a longitudinal incision, when a small quantity of pus escaped. Poultices were applied night and morning, but the wound did not put on a healthy action; the incision was then extended, in order to facilitate the removal of some sloughing disorganized matter which protruded through the aperture. After these measures the patient progressed pretty well, with little or no pain in the knee, until the sixteenth day after the first incision, when the part had lost all inflammatory appearance, but the wound was swollen and somewhat sanious, and unhealthy pus continued to be secreted.

At five P.M. of the above mentioned day the patient complained of stiffness in the jaws and the back of the neck, there being also pain in the latter region. These sensations she attributed to cold from an open window. The skin was cool and moist, and the pulse 100. The next day the stiffness in the neck had increased, and was extending down the back; the skin was still moist, but warm, and the pulse 110. Mr. Hilton prescribed two grains of calomel and one of opium, to be taken every second hour; and an ointment, consisting of one grain of aconitina, and three drachms of spermatic cerate, to be rubbed into the neck and down the spine, in portions of half-a-drachm every two hours. On the third day after the first tetanic symptoms had appeared, the pulse varied as follows: at one P.M., 120; at five P.M., 124; at nine in the evening, 120. The pain and stiffness had increased, the spirits were extremely depressed and desponding. At six P.M. a small quantity of the extract of belladonna was applied to the sphincter ani, in order to produce its relaxation, and at half-past seven the patient had a copious motion, which was was soon followed by another, both of a constipated character, as the bowels had not been moved for three days.

On the fourth day the alvine evacuations continued, and as they were loose and offensive, the calomel was reduced from two grains to one. The patient complained of a great desire, but inability to micturate, and of tenderness on pressure over the pubic region. A catheter was then introduced, and about half a pint of urine drawn off; this fluid was high-coloured, strongly acid, and at first clear, but it soon deposited a very large quantity of whitish sediment, consisting of lithates and a little mucus, the amount of phosphates not being larger than in healthy urine.

The patient slept soundly during the remission of the paroxysms, which remissions lasted between five, ten, and fifteen minutes. There was perfect tranquillity during sleep, the first indication of an approaching paroxysm being marked by a twitching of the muscles of the face, attended by a slight interruption to the previously regular breathing. This was sometimes followed by a relapse into a profound state of repose, but more frequently by a sudden and forcible contraction of the masticatory muscles, closing of the teeth, and biting of the tongue, if that organ happened to be protruded. There was then distortion of the face, with risus sardonicus; the nostrils were depressed; the eyelids nearly closed, producing an appearance as if the patient were attempting to open her eyes under the influence of a strong light; the eyebrows corrugated and drawn down, and the forehead wrinkled. After these phenomena came a little confusion in the respiratory process, attended by a convulsive sighing and by a contraction of the muscles of the back, the chest and abdomen being thrown forwards, and the head backwards. Such were the symptoms for a few seconds; the paroxysm, during which the pulse was a little accelerated, was then over, and the patient soon fell again into a profound sleep.

Fluids could easily be ingested, but the patient took little at a time, and completed each act of deglutition thoroughly before the next was commenced; she likewise continued to take plenty of nourishment in the shape of beef-tea, wine, &c. In the afternoon of this same day, opisthotonos was more decided, the paroxysms occurred oftener, and were of longer duration than during the night, but the intellect remained quite clear, and never flagged during the whole attack. Mr. Hilton now directed the calomel to be omitted, and one grain of opium to be taken every second hour. At nine in the evening, the pulse was 118, and the patient began to feel a tingling and numbness of the right hand and fingers, and of the right leg, as an effect of the aconitina, which was still being applied every two hours on the nerves of common sensation.

On the fifth day of the tetanic attack, the chief source of the patient's distress was an agonizing pain running right through from the scrobiculus cordis to the spine, a symptom so constantly present in this affection, and showing that the diaphragm is largely implicated. A little of the aconitina ointment was applied over the region of this muscle, and in a short time she became comparatively free from pain in the part. On the sixth day, at three A.M., the poor girl was worse, the paroxysms were longer, they occurred oftener, and caused the patient to shriek, and upbraid those present for not killing her. She now complained of severe pain in the region of the hip and left side; a small quantity of the aconitina was twice applied in the course of half an hour, over the hip, and in a very short time the pain was perfectly alleviated. About five A.M. the patient became most violently convulsed, while in the act of swallowing; the respiration ceased, the face turned black, the eyes were glaring, and the wrist pulseless. For a short time she was thought to be dead, but she, however, rallied again.

During the day, the pulse became feebler, the rigidity increased, and extended from the trunk to the lower extremities, so that it was extremely difficult to raise her in bed; and she now described the spasms in the back as catching her breath, and almost taking it away.

On the seventh day, every act of deglutition excited opisthotonos, which jerked her upwards in bed; the wound in the knee was continuing to discharge a whitish pus. Towards the evening, whilst in the act of swallowing some coffee, her muscles of deglutition being unprepared, a revulsive action was set up, which occasioned so much excitement and irritation as to throw the whole system into violent tetanic convulsions. After having rallied a short time, she became again convulsed, gasping and grasping for breath; the pulse made a few fluttering efforts; the heart ceased to beat, and life became extinct.

Though the symptoms of tetanus are well known, we are happy to present our readers with the above description, which we owe to the close watching and accurate noting of Mr. Pavey, the reporter, as the progress of this malady varies much in different subjects. It will be perceived how efficacious the aconitina proved in allaying pain, and it is satisfactory to observe that we possess means to relieve suffering in an affection which we have not the power of curing. It might now be asked, whether the circumstances of this case should preclude surgeons from laying open inflamed bursæ of the patella when there are signs of fluctuation? We should be inclined to answer in the negative. Peculiarities similar to those evinced by Mr. Hilton's patient are extremely rare, and were we now to depart from a practice which has hitherto been found useful, we should act as unwisely as if we were to abandon chloroform because some isolated deaths have been caused by that agent.

No post-mortem examination was conceded by the friends; this circumstance is certainly to be regretted; but it is very likely that the pathological appearances would have added but little to the explanation of the phenomena, if we may judge from the many necropsies which have been recorded.

Separation of the Entire Ulna (with the exception of its Lower Epiphysis) from the Forearm.

(Under the care of Mr. Cock.)

Caries of bone, exfoliation and actual necrosis, present themselves to the surgeon under such a variety of aspects that slight differences must necessarily spring up in the opinions of authors and practitioners. Caries is not a word which conveys the same meaning on both sides of the Tweed; distinctive characters between exfoliation and necrosis are not universally admitted; but these theoretical differences have luckily but a slight influence on practice, except, however, as regards the removal of portions of bone affected with caries. We all know what a long process is the formation of a new shell of bone around a piece which has been (by whatever cause) deprived of vitality, and how tedious is the eventual extrusion of the dead bone. Here it would seem that the surgeon's skill lies in seizing upon the moment when Nature has completed her efforts for the building up of new material and eliminating dead parts, and when he may, without interfering with her work, lend his assistance for the removal of the sequestrum. Cases where such a practice is exemplified happen very frequently, but it is rather rare to meet with the complete casting off of almost the whole of a long bone without the formation of an osseous case, in consequence of acute inflammation of its periosteum; such an event occurred, however, in one of Mr. Cock's patients, and we have much pleasure in giving to our readers a brief sketch of the case.

Dennis S——, aged three years and a half, was admitted into Mary ward, under the care of Mr. Cock, Nov. 29, 1849. The right forearm was swollen, tender, and painful, from the elbow to the wrist, but more particularly along the ulnar side. There were two or three openings about the inner aspect of the elbow, forming the outlet of sinuses which led towards the joint, and these discharged a considerable amount of pus. Immediately above the wrist was a larger ulcerated opening, through which projected the ragged extremity of the ulna, apparently broken or separated at the epiphysis just above the styloid process, thus leaving the articular extremity *in situ*, and preserving the integrity of the wrist-joint.

The following particulars were elicited from the child's mother. About three months before admission, the child had received a severe blow with a stick on the inner side of the arm, just above the wrist. Great pain was experinced at the time, and in the course of a few days, the whole arm became red, swollen, tender, and painful, as high as the shoulder, these symptoms being accompanied by severe fever and constitutional distress. The child was relieved in about a week, by the bursting of an abscess, and a copious discharge of pus, through the openings mentioned above, as situated at the wrist, and about the elbow. A free suppuration had since been maintained, and the health of the boy had considerably improved.

The elbow was slightly flexed, and apparently immovable; at least, any attempt at motion was violently resisted by the child, and seemed to give great pain. On examining the ragged extremity of the ulna, which just projected from the lower wound, Mr. Cock found it loose, and, imagining it to be a small detached fragment, he laid hold of it with his thumb and finger for the purpose of removing it. Somewhat to his own surprise, as well as that of the bystanders, the whole bone descended, and the entire ulna, with olecranon and coronoid processes complete, was drawn out through the opening, leaving nothing but the tumefied and thickened soft parts to represent its former position.

The bone was perfectly smooth and clean, deprived of every vestige of periosteum and articular cartilage, just as if it had been macerated and washed. It was not a sequestrum, as no new shell of bone had been formed around it. The child's forearm now consisted of the radius, which appeared healthy, the soft parts which had surrounded the ulna, and the lower extremity of the latter bone, which completed the integrity of the wrist-joint.

No other treatment was adopted save that of warm water dressing, under which the tumefaction subsided, the sinuses gradually healed, and the child grew fat and strong, until he left the hospital, in March, 1850, four months after admission. The arm was then much altered in form, having a collapsed and shrunken appearance along the inner and posterior part, showing the entire deficiency of the ulna, and the absence of any attempt at restoration by the deposition of new bone. The motions of the hand and fingers were, however, perfect, and the motion of the elbow was daily increasing in extent and power. At the time of his dismissal from the hospital, the child had resumed the use of his arm, and might be seen playing with his toys after the manner of his species.

Mr. Cock, whilst remarking upon this case, stated that he considered it one of acute periostitis, the result of the original injury—viz., a severe blow, and probably a fracture of the ulna just above the carpus. He was of opinion that the inflammation had rapidly extended and involved the periosteum covering the entire ulna, passing at once into the suppurative stage, and giving rise to the formation of abscess between the bone and its investing membrane. By this circumstance the ulna was speedily separated from all its connexions, deprived of its supply of blood, and left to perish. The bone itself did not appear to have participated in the periosteal inflammation; it had undergone no change indicating the presence of previous inflammation, neither had it in size, form, or structure, sustained any material alteration. As already stated, it bore the appearance of an ulna which had been subjected to maceration, and then stripped of its periosteum and articular cartilage.

Mr. Cock mentioned at the same time a somewhat similar case which occurred a few years ago. A lad, about fourteen, had received a violent blow on the leg, which caused the fracture of the tibia just above the ankle. The injury was followed by acute inflammation extending as high as the knee, and the formation of abscess between the periosteum and the bone. The constitutional symptoms were most intense, and several openings having been made to evacuate the pus, it appeared that nearly the entire surface of the tibia was separated from its investing membrane. As the patient's health and strength declined rapidly under the process of suppuration, it was judged expedient to amputate through the thigh; and the case ultimately did well. The tibia was found completely stripped of its periosteum, and macerating in the pus around it. The head of the bone had, however, not become involved, and the knee-joint had not participated in the general mischief.

Acute Articular Rheumatism treated with Lemon-juice.

(Under the care of Dr. Owen Rees.)

We need not remind our readers that the treatment of acute articular rheumatism has not attained the uniformity which obtains with intermittent fevers, continued fever, the exanthemata, &c.; and this difference among physicians may with some truth be attributed to the fact that, in spite of late chemical researches, pathologists are not agreed as to the essential nature of the disease. Though opinions differ, it cannot be doubted for a moment but that acute rheumatism is a *peculiar* kind of inflammation affecting fibrous tissues, and that owing to its being a peculiar kind, it does not yield to simple antiphlogistic measures. It is our intention to point out occasionally the methods of treatment adopted by the physicians of the London hospitals. It will be seen in previous numbers of The Lancet how Dr. Budd, at King's College, and Dr. Barlow, at Guy's Hospital, treat the disease. At the latter institution Dr. G. Owen Rees has introduced a method of treatment which amply deserves notice, both on account of its great simplicity, and the success which has attended it. Dr. Rees has obtained very excellent results from the administration of lemon-juice, and it appears that his colleagues, Drs. Addison and Babington, who coincide with him in his views as to the efficacy of that remedy, have tried the lemon-juice, and found it extremely useful. From the cases treated by Dr. Rees, we select the following:—

R. W., a gardener at Wandsworth, twenty-four years of age, was admitted under the care of Dr. Rees, suffering from acute articular rheumatism. The patient had always enjoyed good health, until nine days before admission, when he was exposed to wet while working. He shortly afterwards felt severe pain in both hips, which extended to the knees and ankles, the latter joints becoming swollen and red. On admission, however, the ankles were no longer very painful, but the patient suffered much in the right wrist and digital articulations of the corresponding hand; the left wrist had likewise been swollen, but that joint was considerably better when the patient was first examined. It is therefore clear that the disease had in this case a decidedly erratic character. The tongue was furred, the skin covered with a greasy perspiration, the pulse quick and weak, and the bowels confined.

Dr. Rees ordered low diet, and one ounce of lemon-juice every fourth hour. On the second day the swelling of the hand had somewhat diminished, though the joint was still painful, and the patient now began to complain of the right shoulder. The bowels were regular, the tongue cleaner, the perspiration not so profuse, and the pulse 70. The pain in the left hand and in the ankles on the same side had disappeared. The urine passed in the twenty-four hours amounted to four pints and a half; it was high coloured, and its specific gravity 1012. On the third day the hand was less swollen and red, and very slightly painful; but the erratic character was kept up, for the patient complained of pain in the shoulder, which, however, gradually diminished. Five pints of high-coloured urine, specific gravity 1012, were voided in the twenty-four hours. The hand, on the fourth day, was scarcely swollen; the patient could move his fingers without pain; no uneasiness was felt in the shoulder; and his sleep was very tranquil and refreshing. The profuse perspiration had greatly diminished, the bowels acted freely, the tongue was cleaning, and the pulse slow and regular, beating about 65. The urine for twenty-two hours was two pints and a half, of the natural colour, and of the specific gravity of 1010.

From this date the patient recovered rapidly, the lemon-juice being lessened to half an ounce three times a day, to each dose of which Dr. Rees added ten minims of the tincture of the sesquichloride of iron.

It will be perceived that in this case there were no signs indicating any cardiac disturbance. When any bruit is discovered about the heart, Dr. Rees has recourse to topical bloodletting, counter-irritation, and mercury. The simplicity of the treatment introduced by Dr. Rees forms a very striking contrast with the methods in general use; and as acetate and nitrate of potash have each been likewise found successful, it might at first sight appear as if the beneficial effects were owing to the citrate of potash contained in the juice; but the very small quantity of this salt present in it (less than one grain per ounce) puts this idea out of the question; and to the free citric acid the good results must therefore be mainly attributed.

It would appear that the administration of lemon-juice in gout and rheumatism suggested itself to Dr. Rees's mind by the fact that the elements of lithic acid may easily be converted into those of urea and carbonic acid by the addition of water and oxygen; and he was inclined to trust to the remedy, more especially in reference to the necessity for a supply of oxygen. He considered, moreover, (as stated in the pamphlet published on the subject,) that "probably the small proportion of alkaline citrate present in the lemon-juice, which by decomposition during digestion yields an alkaline carbonate to the blood, might assist in the cure." It is but fair to add, that Dr. Rees is not very sanguine about this theory, which he gives with certain reservations, though he firmly believes that the remedy "assists in obtaining earlier relief than has heretofore been the case in a most distressing malady."—"The form of rheumatic disease, in which the greatest benefit would appear to have been derived from the use of the lemon-juice, is that of acute rheumatism, and that form of rheumatic affection involving the smaller as well as the larger joints in acute inflammation, and known as rheumatic gout."

It were much to be wished that lemon-juice were universally found as efficacious in acute rheumatism as it has proved in scurvy; its action as to rheumatism can of course not yet be looked upon as fully established; extensive trials are still wanting; and those who will test the efficacy of the juice in their practice, and publish the results, whatever they may be, will confer great benefit on the profession and the public at large.

Cases of Gonorrhœa treated with Acetate of Potash.

(Under the care of Mr. Hilton.)

Though surgeons differ much on various pathological and therapeutical points connected with venereal diseases, they are pretty well agreed as to the treatment of gonorrhœa, at least so far as internal remedies are concerned; for as regards injections they are used in various manners, or rejected altogether. Copaiba and cubebs, in varying doses, and under different forms, have done such good service in uncomplicated cases of gonorrhœa, that they are with propriety selected when that disease is to be treated; the administration of these remedies has had here and there unpleasant effects, but certainly not of such importance as to counterbalance their advantages; still the therapeutical field is open to investigations and experiments: and praise is due to those who hold official appointments, when they take advantage of the opportunities they possess to test the effect of certain remedial agents. Mr. Hilton has lately trodden in that path, and has, in a great number of cases, endeavoured to arrest gonorrhœa by means of acetate of potash, without having recourse either to copaiba, cubebs, or injections. Among the cases thus treated we select three, which were carefully noted by

Mr. Knaggs, and we shall be happy to acquaint our readers with the further trials which may be made in this respect.

The first case refers to a man, aged thirty, a tailor by trade, who, when admitted, July 24th, into Samaritan ward, had been affected with a discharge for a week; the urine was very acid, and the scalding intense. The day after admission, Mr. Hilton prescribed half-drachm doses of acetate of potash to be taken three times a day. Five days afterwards, the scalding was relieved, the urine being still acid; on the thirteenth day, the scalding, though decreased in intensity, continued, and the urine remained acid; the acetate was therefore ordered to be taken every fourth hour. On the sixteenth day, the scalding was trifling, and the urine acid; on the eighteenth day, the urine became alkaline; the scalding had disappeared, and the discharge had completely ceased for some days. The patients are always kept in the house a little time after its cessation, for fear of a relapse; and on the twenty-third day the patient was quite well, after having taken the acetate of potash three times a day for thirteen days, and every four hours for five days.

The second case is that of a bricklayer, aged twenty-five years; his affection may be looked upon as of a gleety character, for when he was admitted the discharge had been of nine weeks' duration. The half-drachm doses of acetate of potash were began at the same time as in the preceding case: on the third day the scalding was better, and the urine acid; on the fifth, the scalding was gone, and the urine neutral; on the sixth, the urine was alkaline; and on the eight day the discharge had completely ceased. This patient was therefore relieved of all his symptoms after having taken the acetate of potash three times daily for nine days, the result offering a striking contrast with the first case. As to diet, Mr. Hilton considers that it ought to be unstimulating, and that the use of strong beverages is to be especially avoided.

The third case is that of a labourer, twenty-seven years of age; he had had a gonorrhœal discharge for three weeks when he applied for admission. The treatment began in the same ward, (Samaritan,) on the 24th of July, as in both the preceding cases, and the acetate of potash, in an aqueous menstruum, was likewise ordered to be taken three times a day. The salt is also given with advantage in camphor mixture, and Mr. Hilton often supplies the patients with the acetate in powder, desiring them to dissolve it in water themselves. Here, however, no very material improvement took place for the first fifteen days, when the scalding became less, and the discharge began to diminish in quantity, the urine being acid. Mr. Hilton now ordered the same doses to be taken every fourth hour. On the nineteenth day the scalding continued, the discharge was less, and the urine slightly alkaline. On the twenty-second, the urine became again acid, though the patient was taking the acetate every fourth hour. At this time diarrhœa set in, and the patient was precluded from continuing the acetate of potash. On the twenty-eighth day after admission, however, the use of the salt was resumed; it was taken every four hours for eleven days, when the scalding and discharge were entirely subdued. It should, however, be noticed, that even at this period the urine remained somewhat acid.

Mr. Hilton was led to give the acetate of potash a trial in case of gonorrhœa from the following considerations. The urethra is in this disease in a highly inflammatory state, and the urine very acid; it is clear that the latter fluid in passing over an inflamed surface must tend to irritate it much, and retard the diminution of the inflammation. The acetate of potash, by its tendency to render the urine alkaline, will therefore remove one of the obstacles which lie in the way of the cure. This same salt has likewise most undoubted depurating properties, and its antiphlogistic powers are very remarkable. Its administration, then, will have the double advantage of rendering the urine less acid and irritating, and of reducing inflammatory action all through the system, and as a consequence in the urethral mucous membrane.

Mr. Hilton does not, however, deny the modifying properties of copaiba and cubebs, but he considers that the acetate of potash renders great service in those numerous cases where, from many different circumstances, neither copaiba nor cubebs can be taken. He often uses the latter therapeutical agents when the disease has been subdued by the above-named salt; a few doses of copaiba then complete the cure, and are likely to prevent relapse. We have heard him state that he is far from considering the acetate of potash as an infallible remedy; nor would he exaggerate its value, but it had been particularly successful in his hands, both in hospital and in private practice.

Foreign body (a common pin) in the Urethra.

(Under the care of Mr. BRANSBY COOPER.)

WHAT are we to think of the cases in which pins are alleged to have been swallowed, to have traversed the whole or part of the digestive canal, and have reappeared on the surface of the body? We have heard men of eminence disbelieve these stories altogether, and express their conviction that the pins or needles have always been thrust from without inwards, into the regions where they are discovered. We are much inclined to side with the sceptics, for it is extremely difficult to understand how a pin, descending along the œsophagus, can quietly and safely reach the calf of the leg or the shoulder; and it would be overtaxing one's credulity to harbour for a moment the belief that such a foreign body is carried along with the circulating fluid. It would be needless to attempt any explanation of the motives which may actuate some patients in implanting those disagreeable inmates into their flesh; women are, for the most part, the subjects of such aberrations, particularly those who are labouring under that cerebro-spinal derangement, called hysteria. The extraordinary fancies and eccentricities which arise from that state are too well known for us to dwell upon them, but the male sex are likewise, here and there, misled, either by mental or physical changes, and commit inexplicable acts.

Mr. Cooper had lately under his care a little boy, ten years of age, who offered a good example of those perversions of mind which are common in hysterical women. The boy, as we gather from the account furnished by Mr. Kingsford, dresser to Mr. Cooper, was admitted July 31, 1850, suffering from symptoms of stone in the bladder. The patient is of a strumous habit, but otherwise enjoying pretty good health. He stated, that about four months before his admission he first experienced pain and difficulty in voiding his urine; he felt a tingling and pricking sensation in the urethra whenever he attempted to micturate, a few drops of blood frequently following the stream of urine. These symptoms, together with a throbbing burning pain in the perinæum, continued with great severity for three weeks, when a purulent discharge from the urethra was observed; after which occurrence the patient's sufferings became much mitigated, until within a week of his admission, when the pain set in with increased severity.

When examined, the boy was evidently suffering much from local irritation, and was only enabled to pass his water guttatim, a purulent discharge still persisting. The patient complained of exquisite pain on the introduction of an instrument; a probe was, however, gently passed down the urethra, and when it had reached the membranous portion of the canal it came in contact with a foreign body. The latter seemed to be a hard circumscribed substance, and could be felt through the integuments covering the perinæum. Mr. Cooper therefore feared that the stone had passed into the urethra, and that it would ulcerate through that canal and the corresponding soft parts if not speedily removed; he consequently resolved to have recourse to immediate extraction.

On the 2nd of August the boy, having been placed on the table in the position usual for lithotomy, Mr. Cooper made an incision into the membranous portion of the urethra immediately over the foreign body, and to the astonishment of every one present, extracted an ordinary sized pin coated with phosphates. When it had been ascertained that the bladder was free from any other abnormal substance, the patient was carefully removed and put to bed. Mr. Cooper could not speak positively as to the direction of the head of the pin, but it is his impression, improbable as it may seem, that the head of the foreign body was looking towards the meatus. It is of course difficult to conceive how the pin could glide down the canal without its point running into the mucous membrane, yet we must not be astonished at anything in these strange cases. In less than a fortnight the wound had entirely healed, and the patient, rapidly regaining his strength, soon left the hospital. Notwithstanding every means of persuasion, the boy obstinately refused to say how and when the pin was introduced into the urethra. He told the dresser at first that he swallowed a pin a year ago, and then, changing his tale, added, that it was four years since that accident happened. This want of accuracy in the patient's account sufficiently shows that his tale is not entitled to credit, and that in all probability, either himself or some other boy passed the pin into the urethra "for amusement."

ST. BARTHOLOMEW'S HOSPITAL.

Medullary and Blood-Cyst Tumour round the Femur.

(Under the care of Mr. LLOYD.)

ALTHOUGH morbid anatomy has taught us a great deal with respect to the nature of the various kinds of tumours which may spring up in bone, (especially since chemical analysis and the microscope have lent their powerful aid,) very embarrassing cases will still arise in practice, where the surgeon is called upon to bring into action all the knowledge, experience, and acumen he may possess. It may well be said, that in cases of osseous tumours diagnosis is everything; indeed, upon the words, "malignant and benign," often hangs the fate of a limb, and hence the vast importance, both to the surgeon and patient, of a correct diagnosis.

A day will perhaps come when an exploring puncture will at once disclose the exact nature of an abnormal growth; the matter lying in the groove of the needle giving, by the aid of chemistry and the microscope, the ready solution of the problem. But as matters stand at present, perplexity may be experienced in determining the nature of a tumour, even when removed from the body; this difficulty being mainly owing, if we mistake not, to the partial changes which not unfrequently occur in abnormal growths. Look at the case lately brought before the Pathological Society by Mr. Prescott Hewett, (THE LANCET, *ante*.) A tumour of the lower end of the femur, which was supposed to be of a malignant nature, gradually diminishes under the influence of mercury. Various ailments attack the patient, of which he partially recovers; he lives for about one year afterwards, and then dies with ascites. Both the periosteum and the medullary cavity over the site of the tumour were infiltrated with *tubercular matter*. Mr. Hewett considered this as rather a rare disease in bone, and very justly added, "that the history of this case afforded a very good illustration of the great difficulties connected with the diagnosis of tumours affecting the osseous system."

The case of malignant tumour under the care of Mr. Charles Guthrie, which we reported in our last number, offers a good illustration of the uncertainty sometimes existing as to the exact extent of the disease; and we have now to bring before our readers another instance of encephaloid tumour connected with the femur, which exemplifies, in a very instructive manner, what combination of characters a malignant growth may present, and how difficult it is to recognise these characters before the tumour is removed.

We are indebted to Mr. Fletcher for the following details:—E. M., an agricultural labourer, aged 20, appearing in good health, was admitted into Pitcairn's ward, under the care of Mr. Lloyd, Nov. 15th, 1850. Upon examination, he was found to have a large swelling at the lower part of his left thigh, which felt like a firm mass round the lower end of the femur. It was of roundish form, smooth on its surface, projecting somewhat all round the femur, but mostly on its outer aspect. It extended as low as the condyles, and surrounded the inferior third of the shaft. The tumour felt in every part firm, tense, slightly elastic and scarcely compressible, and the skin over the outer part was reddened, but not adherent. A few enlarged veins appeared in the integuments over the swelling. The knee-joint was moveable and apparently healthy.

The patient gave the following history of the swelling:—About six months ago, he sprained his knee, and has had pain in or about the part ever since, though only lately obliged to leave off work. About one month after the sprain, he received a severe blow on the lower part of the thigh from a cricket-ball, and again, about ten weeks before his admission, he a second time sprained the limb, immediately after which the swelling commenced, and has gone on increasing up to the present time; (the last three weeks the growth has been very active.) No disease has appeared elsewhere. The aspect and general characters of the swelling were like those of a malignant tumour; but as it might have been a chronic abscess, it was punctured with a lancet; twelve or fourteen ounces of venous blood quickly flowed, and when a probe was introduced, it could be passed easily through some soft, and easily broken substance, down to the bare and rough surface of the femur. The case having been seen by all the surgeons, immediate amputation was decided upon, but the patient hesitated and would delay till the next morning.

On the third day after admission, the patient was brought into the theatre, placed under the influence of chloroform, and Mr. Lloyd proceeded to remove the thigh at the junction of the middle with the lower third. We noticed, that when the circular sweep through the skin and cellular tissue had been made, Mr. Lloyd detached these structures from the muscles about three inches and a half upwards; a longitudinal incision, about three inches long, was then made on either side of the thigh, the anterior and posterior portions of the skin being then turned upwards with the greatest ease. These lateral incisions unite generally very quickly. The arteries were tied, the stump dressed in the usual way, and the patient removed.

The tumour was immediately examined by Mr. Paget, and it was found that the greater part of the disease, lying over the outer half or more of the lower third of the femur, consisted of a large, nearly hemispherical sac, full of black, fluid, and softly clotted blood. On the corresponding part of the inner half of the femur, but over a much less extent, was a mass of firm, white, medullary-looking matter, mixed with bone. The coverings of this were continuous with those of the outer saccular portion, and evidently parts of the same disease. The walls of the sac, or cyst-like portion of the tumour, were composed of periosteum and bone. The periosteum of the cyst was soft, normally connected with the muscles and other parts over it, and continuous with the same membrane of the rest of the shaft, and also with that of the epiphysis. In some parts, the cyst appeared sacculated and thinned. The bony part of the cyst was arranged in prominent ridges, from half an inch to three inches high, variously branched, and connected, so as to form a complete network. The margins of the ridges were rough and irregular, and their substance was very fragile and weak, so that the inner wall of the cyst was easily flexible in nearly every part. There appeared to be but one cyst.

The *solid* part of the disease had the appearance of a milk-white, and almost brain-like medullary substance, blotched with blood, and containing portions of hard, minutely cancellous bone, which were placed irregularly in nearly every part of it, and were like the bone of an osteoid tumour. (The medullary character of this part was proved with the microscope.) In the part of the femur which was enclosed within this disease, the greater portion of the cancellous tissue was solid, very hard, heavy, and "ivory-like," and similar to the hardest form of osteoid substance. The change appeared to have been produced by gradual consolidation of the cancellous tissue, for faint traces of the original cancelli could be discerned in the osteoid parts. In those portions of the cancellous tissue which had not undergone this osteoid change, medullary substance, like that on the exterior of the shaft, only firmer, was interspersed in irregularly circumscribed masses, or nodules, in which the medullary matter was mixed up with osteoid bony matter.

The walls of the shaft, enclosed within the disease, presented, especially in the part corresponding with the cyst, a separation or removal of their outer laminæ. On looking down upon the cut surface of the shaft, there could be traced, for an inch or two above the disease, the outer layers gradually separating; then the two or three outermost ceased abruptly at the cyst, as if they had been carried off with its periosteal investment; and the remainder, retaining their position, were rough, irregular, and as if broken and fused with the osteoid disease of the cancellous tissue. The appearance was exactly as if the medullary growth had been formed among the layers of the wall of the bone, separating and pushing out the outer layers, and wasting or eroding the inner ones. On the inner wall of the shaft there was a similar, but much less complete, separation of the layers, and some wasting of them under the medullary growth, situated above. But here, in the same places where their wasting was seen, there had sprung up low, brittle, osteoid growths, which extended into the medullary matter, and were mingled with it. The knee-joint was healthy; the front of the tibia presented the blotched, purpureous appearance of the surface of its shaft, so often seen in connexion with medullary disease of the lower end of the femur. The anterior surface of the patella was also deeply vascular, and a livid hue extended for nearly a line into its substance.

Mr. Paget, to whom we owe the above accurate description, was kind enough to point out to us preparations, in the museum of St. Bartholomew's Hospital, which present much analogy with the tumour of Mr. Lloyd's patient. We find, for instance, No. 220 of the Pathological Series described as follows:—

"Portion of a femur, of which the lower extremity is expanded into a large cyst, which was filled with *liquid and coagulated blood*, and a small quantity of *brain-like medullary substance.* The cyst is nearly globular; its walls are from a line to two lines in thickness, composed of thin plates of bone and fibrous membrane, smooth externally, and presenting, internally, at some parts, a rough surface of bone, and at others, numerous prominent, decussating, fibrous bands and cords, like the texture of the basis of a spleen, or of erectile tissue. Below, the cyst is bounded by the articular cartilages, of which the texture is unaltered; above, by the shaft of the femur, which terminates abruptly, just before it is expanded into a cyst. The shaft above the cyst presented numerous small spots of effused blood, like ecchymosis, beneath the periosteum."

Nos. 32 & 83 of the above-named series offer, likewise, good examples of the same affection; and we would, in conclusion, remark, that when a cyst, filled with fluid and clotted blood, is found to have sprung from a bone, the idea of the so-called blood-tumour is immediately suggested. But it would appear that some caution is required in pronouncing as to the actual nature of such growths. Various surgeons present at Mr. Lloyd's operation were much inclined to regard the tumour affecting the thigh just removed as a blood tumour; but, on close examination, both in the theatre and subsequently, the encephaloid nature of the growth was clearly made out. That there may be such a blending of the two varieties of the disease as to perplex the pathologist will be made evident by the following case, related by Mr. Stanley, in his work on "Diseases of the Bones," p. 188:—"In an instance of sanguineous tumour, originating with the condyles of the femur, where I amputated the thigh at its middle, it was considered probable, from the ecchymosed condition of the tibia and of the femur to its amputated extremity, that other bones had undergone a similar alteration; yet, in the *sixth year* after amputation, I ascertained that the patient was in good health, and the remaining portion of the thigh in a perfectly sound state. In this instance, moreover, whilst the large cyst formed by the expanded condyles of the femur was filled by fluid and extravasated blood, there were distinct portions of soft substance attached to the inside of the cyst, so closely resembling brain-like matter as to suggest that *the sanguineous tumour of bone may be a variety, or the incipient stage of encephaloid disease.*"

We are glad to add that Mr. Lloyd's patient has progressed satisfactorily; and as cases of non-recurrence of the disease after amputation are on record, we may hope that such a favourable circumstance will likewise take place in this instance. As for the little doubt which at first hung over the nature of the tumour, we would just quote the following lines from Mr. Stanley, p. 141:—"An arrangement of tumours of bone cannot well be founded on their composition, *two or more morbid products* being occasionally united in the same tumour. Another source of difficulty in classifying tumours of bone is the changes to which they are liable."

Lupus Exedens.

(Under the care of Mr. Lloyd.)

Lupus may be numbered among those diseases which entail upon the surgeon much anxiety, and the treatment of which procures him seldom any credit; and here the physician fully shares the surgeon's troubles, as both are called upon to treat skin diseases. A very distressing feature of lupus is its liability to recur after cicatrization, and the patient (always more ready to accuse the doctor than the disease) fancies he must have been but imperfectly treated. Still, lupus may certainly be conquered: we have examples of the fact, and thus far may we use the proper means with good courage. But it would be erroneous to attach too much importance to the results which have been recorded, for the diagnosis of the disease is open to error, though it cannot be considered as difficult.

Three affections are known to make dreadful havoc in the face: lupus, noli me tangere, and syphilitic ulceration. Some authors admit no difference between the two first named affections; thus we read in various works,—"Lupus *vel* noli me tangere." It will, however, be remembered, that Biett, who has done so much for skin diseases, considered the noli as quite distinct from lupus; and Cazenave and Schedel, in quoting their master, (Biett,) say:—It would appear that the noli ought to be restricted to cancerous diseases: it affects principally people of advanced age: the ulcers have everted margins; they suppurate largely, and are painful; they look fungous, and are not covered with thick and dry crusts, as is the case in *lupus*."

So much for the *noli*; its characters seem to be pretty well defined, but it is not so with syphilitic ulcerations, and the differential diagnosis is here somewhat more difficult. If we turn to the same authors, we find the following passage;—"The *syphilitic* tubercles, which have not as yet ulcerated, are larger, rounder, of a more coppery red than those of lupus; they do not scale off, and ulcerate less frequently. The tubercles of *lupus* are softer, more flattened, attended by a slight œdema of the surrounding skin, and almost always covered with an epidermoid pellicle, ready to fall off. When ulceration has taken place the distinction between syphilis and lupus is more easy. Syphilitic ulcers are deeper, their thickened margins are sharp, and of a coppery red; whereas, the ulcers following the tubercles of lupus are of a dark red colour, and seem to occupy but the surface of the skin."

Of the three descriptions of lupus, (the first destroying along the surface, the second in depth, and the third with hypertrophy,) the ulcers of the second resemble syphilitic sores most, particularly in those cases where the nose is altogether destroyed. But the very mode of destruction will assist in making a distinction. Thus, in lupus, the skin suffers first, the cartilages and the bones are only consecutively attacked, and often only after a very long time. In syphilis, on the contrary, the bones are mostly destroyed first, the skin is affected afterwards, and the progress is altogether more rapid. Nor must the *age* of the patient, and the accompanying symptoms, be overlooked; these distinctions are not useless, for though the prognosis of the three affections is very unfavourable, it is not so in the same degree, and this circumstance is of sufficient importance to take the trouble of making a careful diagnosis. Noli being decidedly cancerous, may be looked upon as the most dangerous, lupus comes next, and syphilis is the most manageable of the three. Mr. Lloyd, under whose care was the case of lupus which we are about to report, had, a short time ago, to treat a middle-aged woman at St. Bartholomew's Hospital, who was seemingly affected with lupus; syphilis was, however, suspected, and Mr. Lloyd having prescribed iodide of potassium, had the satisfaction, in a few months, of bringing on complete cicatrization. We proceed now to give an account of a genuine case of lupus exedens in a boy, lately under the care of Mr. Lloyd, where the parts, though in a distressing state, were finally made to heal up. We were much assisted by the notes of Mr. Lane, one of Mr. Lloyd's dressers.

The patient is a delicate-looking lad, fourteen years of age, with a fair, thin skin, and strumous look, whose parents reside at Brixton, and was admitted into Pitcairn ward under the care of Mr. Lloyd, May 30th, 1850. The poor boy was a pitiable and hideous object, his face being so disfigured by ulceration and destruction, that the continuity of features could hardly be recognised. The involuntary idea which suggested itself in looking at him was, that it would be great mercy (were such a course allowable) to free the wretched being from a miserable existence. The case, however, shows by its favourable issue, that we should hardly ever despair of the curative efforts of nature in lupus, when she is assisted by adequate therapeutical means.

Almost the whole of the right side of the face was the seat of an extensive ulceration, involving a portion of the left cheek and lower part of the forehead. In this ulcerated mass a few granulations might here and there be seen, but they were lost among the dense crusts and inflamed suppurating surfaces, which reached as far as the temple, and mounted on the forehead. The eyelids on the right side were quite destroyed; the eye, contracted and discoloured, presented a little mass, of the size of a pea, which denoted by a few movements that once it was an organ of vision. Both the alæ and ossa nasi were quite gone, and the thickened upper lip was drawn upwards, exposing the incisor teeth. On the left side of the face the ulceration extended only to just below the eye, where it stopped abruptly. The size of the latter organ was diminished by inflammation, and pressure round it gave pain, though the boy stated that he could see well on that side.

The patient being questioned as to the origin of his sad condition, stated, that about four years and a half ago he was attacked with scarlet fever, which was attended by ulceration of the throat, for which latter affection he became an in-patient of a metropolitan hospital. It would seem that the ulceration which had begun in the throat gradually reached the posterior nares, and having extended as far anteriorly as the ala, destroyed these parts in a very rapid manner. After some stay in the hospital, he was sent home for the benefit of the country air, but the ulceration continued to spread, and soon involved the septum and ossa nasi; it now reached the upper lip and was tending towards the right eye. Being readmitted into the hospital, a variety of remedies were used, but, in spite of the best efforts, the disease, being a good example of that variety of lupus which destroys along the surface, continued to spread, and brought his face to the state above described. The almost insurmountable difficulty of arresting the progress of lupus in a strumous constitution is well known; and it is a strange fact (dwelt upon by Cazenave and Schedel,) that individuals residing in the country are more liable to the disease than people living in towns.

The principal aim Mr. Lloyd had in view was, to improve the patient's health, and use such topical applications as would be found to stimulate the part sufficiently. The boy was therefore put on full diet, a poultice was applied to the face, and one grain of disulphate of quinine, with ten minims of dilute sulphuric acid, prescribed twice a day. As soon as the inflammation of the part was subdued, the topical application consisted of turpentine ointment regularly and carefully applied. These means seemed to have a beneficial effect, and were continued for about three weeks, when the quinine was increased to two grains, and the oil of turpentine, with balsam of Peru, substituted for the above ointment. It was used in the form of a liniment, and applied with a camel-hair pencil. The ulcerations improved with this liniment, but its stimulating powers began, after about one month, to grow weak, though it was noticed that the discharge was diminishing, and that here and there faint signs of cicatrization became apparent. The appetite and general health were at the same time improving. Creasote was therefore added to the liniment, about two months after admission, and the quinine, having now been sufficiently tried, Mr. Lloyd had recourse to iodide of potassium.

Small doses of the salt were prescribed, to be taken three times a day, the nutritive diet being continued. As to topical applications, a combination of the turpentine ointment with creasote was now tried. The parts were getting less and less painful; the ulceration around the nose began to cicatrize, leaving but a small aperture where that organ had once existed, and the best hopes were entertained of the case. The iodide of potassium did not act as distinctly as had been expected, and after it had been continued for about three weeks, recourse was again had to quinine. The face now improved in a remarkable manner, the discharge became trifling, the granulations active and healthy, and on the 10th of October, four months and a half after admission, the boy, having for the last few days used the zinc ointment, presented the following appearance:—The whole of the left side of the face is completely cicatrized, the lower lid of the left eye being slightly drawn downwards, and denuding a small portion of the conjunctiva; the upper lip is firm, and healed, but it is of course drawn up, and leaves the incisor teeth uncovered. The right side of the face is likewise cicatrized, and though it was ever the worst side, presents less seams and irregularities than the left. Both the upper and lower lids of the right eye are completely destroyed; the orbit is of the normal size, and defined by a red line, within which the globe is moving. The latter is covered by a pellicle of a rosy colour, which seems thin; and at the external canthus, of the eye a black spot is seen, of the size of a pea, being the remains of the iris and lens. The boy is still deaf; the sight of the only remaining eye is imperfect, but his health is good, his appetite excellent, and the sleep sound. The disfigurement is, as it may be imagined, great, but the cicatrization here obtained is of a most satisfactory and encouraging character.

Pelvic Abscess.

(Under the care of Mr. Stanley.)

The generative system of women is subject to such a variety of temporary derangements, and to such serious organic diseases, that the diagnosis of the different affections to which their reproductive organs are prone is confessedly difficult. It is especially in enlargement of the abdomen with adult females that it is sometimes embarrassing to decide between the different causes which may give rise to such a tumidity. The uterus and the ovary are the organs upon which the suspicions of the practitioner will at once turn, and the symptoms will of course be carefully weighed and examined with reference to gestation, either normal or abnormal, dropsy of the ovary, or solid distension of that organ. When the symptoms are very acute, the diagnosis is less difficult, as the range of possible occurrences is more limited than in chronic manifestations, and yet it will be perceived by the following case how it may happen that very acute symptoms may leave the mind embarrassed as to the seat of the severe inflammation. Mr. Savory kindly furnished us with the facts bearing upon the patient's early history.

The patient, a young woman of about twenty-six years of age, of dark complexion, and pleasing, regular features, was admitted, under the care of Mr. Stanley, July 8, 1850. It would appear that this young woman, about two months before admission, suddenly entered upon a very irregular course of life, after having been a well-conducted domestic servant, and she confessed, that after this unfortunate step her generative organs had been greatly overtaxed. She first placed herself under the care of a practitioner in town, when attacked, as it was supposed, with peritonitis; after four days' appropriate treatment, a tumour was discovered on the right side of the abdomen, towards the iliac fossa, the patient herself not being aware of its existence. It gave the abdomen a prominence which might be compared to that of the fifth month of pregnancy; it was dull on percussion, and its extent could in some degree be defined by the intestines on the left side yielding a clear sound percussed. Symptomatic fever began now to run very high, and the vagina being examined, it was found that the os uteri was situated lower in the vagina than is the case in the normal state, and the cervix was inclined obliquely to the right, as if the fundus were tilted to the left. This abnormal position of the uterus was discovered by the passing of the sound into that organ. The patient had soon very severe pain and tenderness about the abdomen, the pulse became very quick, the skin hot and dry, the eyes brilliant, and the respiration hurried.

When admitted into the hospital, some doubts were entertained as to the nature of the affection: abnormal gestation had been thought of, but the internal wall of the uterus was lined by no decidua, the alvine evacuations were regular, the urine was passed easily, and in the usual quantity, and the patient had menstruated a week before admission. Six leeches were ordered to be applied to the abdomen; this seemed to give some relief, but the symptoms were still very severe. A dull sense of fluctuation was soon conveyed to the hand, when applied to the right iliac fossa; and as the nature of the disease still remained very obscure, Mr. Stanley, after having consulted with his colleagues, resolved to introduce an exploring needle into the tumour, and, by this means, endeavour to discover its nature. The groove of the needle, when withdrawn, was smeared with pus; this circumstance confirmed the suspicion of an abscess having formed, and a trocar being introduced about four inches to the right of the linea alba, (the spot being dull on percussion, though no fluctuation could be detected.) a considerable quantity of fœtid purulent matter, streaked with blood, was evacuated. The fluid was not so glutinous as is generally found in ovarian disease; its evacuation, however, afforded the patient considerable relief; the pulse lost in frequency, the pain abated, the countenance became less anxious, and the appetite improved.

Mr. Stanley ordered generous diet, emollient applications to the abdomen, an opiate at night, and wine. The wound continued to discharge for about ten days, when the puncture healed up; the tenderness gradually abated, but the general symptoms did not improve in the same ratio; the patient was becoming paler and weaker; her voice assumed a distressing hoarseness; her cheeks were partly flushed; the pulse re-ascended to 104, and the vomiting was more frequent, although there was no longer any swelling, fluctuation, or dullness on percussion of the abdomen. She had menstruated very soon after the opening of the abscess, but the discharge had been very trifling. The respiration became embarrassed, and the patient complained of pain at the scrobiculus cordis when she drew a long breath; she vomited, almost every evening, large quantities of phlegm, and had frequent attacks of diarrhœa. Thus the patient went on for a fortnight, evidently losing ground every day, in spite of the wine and stimulants which were liberally given. About this time the diarrhœa ceased; she complained suddenly of most excruciating pain in the hypogastrium, without any vomiting, strain, or previous rigor. The abdomen was not distended, tolerant of pretty firm pressure in the epigastrium, but exquisitely tender in the umbilical and hypogastric regions. Patient did not draw up her knees, and the abdominal muscles were moving on respiration. An opiate was administered, which procured sleep for several hours, but the pain was again complained of, on awaking; the poor girl's face became depressed and anxious; she vomited some bilious fluid; her extremities grew very cold, and the abdomen, though not more tumid than before, became now generally tender. By the aid of stimulants, opium, and nutritive enemata, the patient lingered for about three days, and died six weeks after admission, and five after the evacuation of the abscess.

On a post-mortem examination, the emaciation was not found very great. The brain and its membranes were perfectly healthy; the heart rather small, but otherwise in a normal state; as were the lungs, pleuræ, and pericardium. The abdomen was discoloured externally, and its walls presented a small quantity of fat. On opening the cavity of the peritonæum, between the ensiform cartilage and the umbilicus, a quantity of sulphuretted hydrogen escaped. Below the latter point, so closely and firmly adherent were the intestines to the parietal layer of the peritonæum, that it was found impossible to separate them. On continuing the dissection towards the anterior superior spine of the ilium, the sac of the peritonæum was found occupied by about three or four quarts of most horribly fœtid, thin, puriform fluid. This considerable amount of purulent matter was confined within the pubic and iliac regions by the dense and abundant layers of organized false membrane, situated immediately above it. The walls of the peritonæal cavity were so thickly coated with lymph, that it was almost impossible to recognize the several viscera. The mucous membrane of both stomach and intestines was healthy; the liver rather large, the interlobular spaces being pale, and their veins distended. No other viscus calls for particular attention, except the uterus and ovary. The lining membrane of the former was of a deep-red colour, and covered, almost throughout, by small, circular, ulcerated spots, somewhat varying in size. The left ovary was healthy, but the right rather large, and containing several cavities which would have admitted a pea; these had well defined boundaries, and were filled with a yellowish-white, cheesy substance, like softened tubercle. There was clearly no communication between these cavities and the pelvic abscess, which latter was found to have originated in the cellular tissue, between the rectum and uterus. This abscess had thence burst into the peritonæal sac, and excited repeated attacks of peritonitis.

The question which arose when the patient was writhing under acute symptoms, the pain lying principally in the right iliac fossa, referred chiefly to the seat of the evidently severe inflammation and possible suppuration. It is very natural that suspicion should at once have been turned towards the ovary, and a glance at the patient's history will show that the symptoms manifested could with some propriety be ascribed to acute inflammation and suppuration of an ovarian cyst. The unfavorable state into which the patient fell a little time after the partial evacuation of the abscess, wrapped the seat of the latter in great obscurity, and the actual condition of parts could hardly be conjectured with any satisfactory degree of probability. The post-mortem examination revealed the existence of an abscess of a comparatively common kind, but which affecting a patient of the female sex, placed in very peculiar circumstances, was well calculated to direct attention to the generative organs as being in all probability the seat of the mischief. That the exciting cause of this accumulation of matter was connected with the sudden change which occurred in the patient's way of life is extremely likely; and such a case as this will afford an additional proof of the truth of the opinion that the discovery of the exciting causes of diseases of all kinds must ever remain obscure. In spite of the minute inquiries of the practitioner by the bed-side, he *never* is made acquainted with *all* the circumstances of a great many cases, and sometimes remains ignorant of facts which would have rendered the diagnosis comparatively easy. The state of the right ovary should not be overlooked; that organ had evidently been very active, and though the exact nature of the cavities found in it could hardly be ascertained, it is likely that they were the result of the natural but over-excited functions of the part.

Chimney-sweeper's Cancer; Recurrence of the Disease.

(Under the care of Mr. Wormald.)

Mr. Samuel Cooper, in speaking of chimney-sweeper's cancer, says—"This is a malignant disease, over which internal medicines and external applications possess little or no control. If, therefore, we meet with the disease in its early stage, before the testicle, the spermatic cord, or the lymphatic glands, are involved, we ought to lose no time in trying useless medicines and dressings, but at once take away the disease by the knife. Even then the result will be uncertain; and in the course of my time, I recollect more instances in which the operation was followed by a relapse than a permanent cure." This passage is not very encouraging, but the same author says, a few lines below, as if wishing to qualify the opinion just expressed—"One remarkable difference between chimney-sweeper's cancer and common cancer is this: in the former case, *if the whole of the diseased parts be taken away, there will be no relapse;* in the latter, the same practice does not secure the patient from a return of the disease in the same or other parts." Cases have lately occurred at Charing-cross Hospital, which very instructively illustrate the truth of the latter part of this sentence: we shall soon have the pleasure of bringing them before our readers; we shall for the present confine our attention to the fact, that chimney-sweeper's cancer may *after complete excision*, (the inguinal glands being at the time unaffected,) reappear in a comparatively short time, and remain stationary for more than a quarter of a century.

The patient is a chimney-sweeper, and was admitted Sept. 10th, 1850, under the care of Mr. Wormald. He is fifty-nine years of age, and was affected with a cancerous growth on the scrotum, an organ so often attacked in this manner with people following that occupation. The interest which is created by this case lies principally in the fact, that the man had been operated on for a similar affection by Sir Astley Cooper, about thirty years ago. The cancerous tumour was of small size at that period; the wound healed well, but the patient remained only a twelvemonth free from abnormal appearances in the scrotum, for at the expiration of that time a small and hard tumour appeared at some distance from the cicatrix, but it grew so very slowly, that nearly twenty-nine years elapsed before the man found it necessary to seek surgical assistance, the cicatrix and size of the scrotum showing that a considerable portion of the latter had been removed. The growth reached the size of an egg without ulcerating, and it caused hardly any pain. When the patient presented himself to Mr. Wormald, part of the tumour had taken on the ulcerative process; the excision was at once resolved upon, and performed by drawing the tumour forwards, and dividing the sound parts of the scrotum beyond the tumour.

It would appear that irritating particles are even now lodged between the rete mucosum and the cuticle of the scrotum, as the patient complains of much itching in the part, and has produced numerous pustules by trying to relieve this sensation. The rugose nature of the scrotum must have a great deal of influence on the development of these cancerous growths, for it should be observed that this patient is tattooed all over the body with black specks, upon which neither soap nor the warm bath have any influence. This appearance is evidently owing to molecules of soot lodged either below or in the rete mucosum; and yet no tumours of the cancerous form spring up anywhere but on the scrotum, and those parts where the skin favours the retention of the soot.

The facts elicited by the history of this case are certainly of some value, for they afford an example both of the recurrence of the growth and its very slow progress through a great number of years; the same exciting cause being constantly present, as the patient has been a chimney-sweeper since he was four years of age. He is now fifty-nine, and his general health is extremely good—a circumstance which will go some way to prove that this trade, though rendering liable to cancer scroti, does not commonly affect the general health; yet at first sight it appears strange that the pulmonary organs should not be more affected by the carbonaceous particles. We examined the groins of this patient with particular care; that region yielded to the finger a sensation of thickness and bogginess, and though the glands could not be said to be actually enlarged, the part did not feel as if it had altogether escaped the influence of the scrotal affection; but this congestive state does not seem to have any specific importance. This patient has just been discharged, the wound being completely healed.

Diffuse Aneurism.

(Under the care of Mr. Lloyd.)

The wounding of an artery of some size is always an event of a serious character, whether the soft part have suffered a solution of continuity or not. Indeed, it is principally when the external wound is small, and an artery has been punctured, that the surgeon will have to watch his patient with some care, as the consequences of such a lesion offer certain varieties which will materially influence the treatment. Nor is the method of treatment either in traumatic, diffuse, or circumscribed aneurism sufficiently settled to render any anxiety unnecessary. Pressure, ice, the ligature at a distance, and the ligature above and below the puncture, have all by turns been advocated, the practitioner, having, therefore, to make his choice. A case of diffuse aneurism was lately treated by Mr. Lloyd with the ligature above and below the wound of the vessel; the result was extremely satisfactory, and we beg permission to give a rapid sketch of the case, founded on the notes of Mr. Fletcher, the dresser of the patient.

Thomas J., aged fifteen, a healthy lad, was admitted into Pitcairn's ward, under the care of Mr. Lloyd, November 16, 1850, with a tumour occupying the middle third of the inner surface of the right forearm, which latter had in its centre a cicatrix, as if from a wound by some sharp instrument. The patient, who is a doll maker, stated, that fourteen days previous to his admission, whilst at work, he accidentally run a sharp, narrow-bladed knife to a considerable depth into his forearm. The knife ran directly upwards and backwards, and entered the skin just above the ulna; no pain or hæmorrhage of any importance followed the accident, the boy mentioning that he had lost about a tea-spoonful of blood. Patient continued at his work, and felt but little inconvenience from the accident, excepting a slight stiffness in the arm. On the eighth day the forearm began to swell, and grow painful, but the distress was not so great as to make him seek for medical relief: he still continued to follow his employment for another week, when it so increased that he was compelled to apply at the hospital.

Upon examination, a tumour was observed of a somewhat oblong form, occupying the middle third of the inner aspect of the right forearm (over the course of the ulnar artery.) Its circumference had no defined or indurated margin; the upper part was tense, slightly elastic, but did not present to the touch any signs of fluctuation, and the integuments retained their natural colour. No bruit could *then* be heard; the radial artery pulsated strongly, the beats of the ulnar were, however, very feeble. There was no pulsation in the tumour, the patient did not complain of any loss of sensation in any of the fingers, nor did the handling of the tumour give him any pain. In the afternoon of the day of the boy's admission, Mr. Lloyd examined the swelling with great care; an indistinct bruit could now be heard in the tumour, and the latter was likewise influenced by pressure on the brachial artery. In the evening the bruit became distinctly audible, but no constitutional disturbance had occurred. On the next day the tumour had manifestly increased, there was greater tension of the surrounding parts; and the diagnosis being now no longer doubtful, Mr. Lloyd determined to tie the ulnar artery above and below the wound of the vessel.

The boy was brought into the theatre on the 17th of November, the day after admission, and Mr. Lloyd began by making an incision obliquely across the most prominent part of the tumour; this brought into view several soft clots of blood, which were carefully removed. The ulnar artery was now discovered, the vessel presenting a small longitudinal opening, through which blood was slowly *oozing*. A double ligature was passed under the artery, the loop cut across, one ligature slipped and tied above the aperture in the vessel, the other below. The patient had been rendered insensible by chloroform; the wound was dressed in the usual way, and the boy removed. His progress was extremely satisfactory; the wound healed very rapidly; there was, during the few first days, slight numbness in the little and ring finger, but this diminished gradually, the wound cicatrized completely, and the patient was discharged, about three weeks after admission. The radial artery pulsated strongly when he left, but the ulnar could not be felt.

Mr. Lloyd, in referring to the tardiness in the collateral circulation to bring the blood into the lower portion of the ulnar artery, mentioned a remarkable case of large tumour in the axilla, which had been under his care some time ago in Bentley ward. The growth invested the nerves and vessels of that region, and was removed, after a very tedious dissection. Five days after the operation, a gush of hæmorrhage occurred; this was stopped by pressure, but there was great apprehension of further loss of blood, yet no such accident occurred. The radial and ulnar arteries, however, ceased to pulsate, and these vessels remained for a *twelve-month*, when they again began to answer the systole of the heart. The subject of this latter case was an adult; it is to be supposed that the ulnar artery will resume its pulsations in the boy just discharged long before a year elapses.

It will be noticed that a whole week passed away between the puncture of the vessel and the appearance of any swelling. What took place in the part during that time? According to generally received notion, it may be supposed that the track between the aperture of the vessel and the external wound being narrow and irregular, a clot closed the wound made by the pointed instrument, and prevented hæmorrhage; that it became detached, after a week's time, by some effort made with the limb, and that the blood had then gradually insinuated itself into the cellular tissue around, and given rise to diffuse aneurism.

The report states that the swelling increased rapidly, and it may fairly be surmised that the tension would soon have become extreme, the œdema considerable, and the limb placed in great jeopardy, if energetic measures had not at once been adopted. Compression in a case like the present is advised by some surgeons but it is likely that this mode of procedure will have but a very slight influence when the effusion of blood is as considerable as was here noticed. The simplest and safest method is certainly to cut down upon the artery, remove the clots, and tie the vessel above and below the bleeding orifice. It must, however, be clear to those accustomed to operations of this kind that the securing of a vessel under such circumstances is often a very difficult task, as the coagula tend to displace the parts, and change their natural relations; and it is not seldom the case that the congested cellular tissue around the wound of the artery entirely conceals that wound. It has therefore been advised that the vessel should be tied at a distance when the above difficulties are unusually great, or when the search after the artery would give rise to great disturbance of the part. Such is the opinion of Dupuytren. Mr. Guthrie differs from him altogether, and warmly advocates the tying of the vessel above and below its wound, maintaining that the collateral circulation would soon give rise to secondary hæmorrhage from the lower portion of the artery were it left patulous and the vessel tied at a distance. There can be no doubt that Mr. Guthrie's method is by far the safest, and it seems particularly applicable to the case we have just reported. There is another mode of dealing with diffuse aneurisms, which we now have an opportunity of seeing employed in a metropolitan hospital—viz., the application of ice. We suspect that the cold is intended to check the progress of the tumour, and change the diffuse into a circumscribed aneurism. We shall watch this latter case with peculiar interest, and offer a report of it as soon as decided results have been obtained.

KING'S COLLEGE HOSPITAL.

The Mania of Thrusting Needles into the Flesh.—Tape-worm expelled by the Male Fern.

(Under the care of Dr. Budd.)

We need not remind our readers of the Protean nature of hysteria; every practitioner has opportunities of witnessing the strange manifestations of this sad affection of the female economy, and the records of medicine abound in examples of perverted tastes and propensities. Among the cases which lately came under our notice, we would mention one under the care of Dr. Budd, referring to a young girl who had not spoken for about two years; on which occasion we heard Dr. Budd mention another of the same nature, where the young girl could not be prevailed on to take a proper amount of food, and which he treated by powerful cold douching, by which he overcame the obstinacy of his patient. Dr. Addison, of Guy's Hospital, recently mentioned, in an extremely interesting lecture which he gave on that disease, several surprising instances of perversion of the will. One young lady pretended for months that she could not rise from her bed, and was detected, when by herself, in getting up in a deliberate manner; another ruined her parents by a supposed diseased knee, &c. Dr. Addison stated that he considered the disease to have its seat in the cerebro-spinal system, and that it was brought on by sedentary habits and the heating of the imagination by books calculated to lead that faculty astray. Thus it would appear that uterine derangement is in many cases rather an effect than a cause.

Still there are more cases of hysteria in young girls than in married women, and it would seem as if the forced passive state of an organ intended for activity had not a small share, by its congested state, in producing (through the medium of the cerebro-spinal system) the extraordinary manifestations of hysteria. That sedentary habits have great influence in the development of the disease is partly proved by what is observed in hospital practice; for the young females thus affected and treated in such institutions are mostly dressmakers, milliners, &c. It would be interesting to inquire how far young girls in the country, brought up to active agricultural labour, suffer from the affection, or whether it exists at all among them; the proportion of female servants, who are subjected to much work, admitted for hysteria in the London hospitals, is certainly small. We shall now give a brief sketch of Dr. Budd's case.

The patient is an unmarried woman, about thirty-six years of age; she was born in the country, and her family is decidedly consumptive. She has had the small-pox, and was treated, about seven years ago, in St. Bartholomew's Hospital, for a liver complaint. One year after this attack, the patient lost her father; she was very much shocked at this occurrence, and this mental disturbance, connected with certain ill treatment which she met with, brought on insanity. She, however, recovered the use of her faculties in a short time, now began to complain of cough, and was admitted, about four years ago, into the Norwich Hospital. For the last five years some kind-hearted ladies took interest in her, (hysterical patients are extremely fond of attracting attention and sympathy,) and sent her to King's College Hospital, where she was admitted.

The patient, when questioned about her ailments, complained of pain at the pit of the stomach after the ingestion of food, and of fits of vomiting, which distressed her much. She had cough, dry and foul tongue; no appetite; the urine was acid, and the menstruation scanty. When Dr. Budd made pressure on the pit of the stomach, where the pain was referred to, he felt hard and resisting bodies, which gave the hand the sensation of heads of needles, and the part being carefully inspected, little white scars were perceived scattered about in the region of the scrobiculus cordis. In order to ascertain the nature of the foreign bodies lodged under the skin in that region, several incisions were made exactly over them, and on the day after admission, *four needles* were removed from under the integument. On the third day, ten needles were likewise extracted, and it was noticed that the vomiting ceased after the removal of these foreign bodies. The patient continued, however, to complain of pain in the epigastrium, for which she had aperients and anodynes, and about ten days after her reception in the hospital twelve more needles, with some fragments, were taken out. It was now noticed that they were not all needles; some looked like pins, the heads of which had been broken off.

Dr. Budd considered that the needles placed in such an unusual locality must have much influence on the pain the patient had felt about the stomach, and that that organ, when in a state of distention, might easily have been transfixed by the points of some of the needles. It is now a point of some interest to ascertain *how* these foreign bodies had found their way into the patient's subcutaneous cellular tissue. It required much persuasion, and even threatening, to make her give any explanations on the subject, but she confessed at last, that she had thrust the needles under the skin five years ago, in a fit of insanity, adding that they were all pushed in at the same time. Dr. Budd did not give credit to this tale, and, considering that the needles were all oxidized and had no eyes, he was of opinion that they had been thrust in successively; that, in fact, the woman had placed them there every time she had done with them, this being, doubtless, a very extraordinary fit of economy.

Whether such acts may be committed under the mere influence of hysteria is certainly open to doubt. Dr. Budd stated, in some clinical remarks which he made on the subject, that such cases happen in general when mania is present, and mentioned a preparation, now in the museum of the College of Surgeons, exhibiting an example of the same kind as offered by his patient, where no less than 100 needles were thrust in pretty well in an analogous manner. In Dr. Budd's case, however, about fifty needles were found; they were shown to the pupils during the lecture, placed in rows on a piece of flannel, and their great number could hardly be looked at without a feeling of amazement at the strange occurrence. Dr. Budd stated that he had no faith in the accounts we hear of needles or pins having been swallowed, and then reappearing under the skin in some distant part of the body; he fully believed that such objects were generally thrust in at the very spot where they were subsequently found, exactly as happened in the present case. He considered it as quite impossible that a pin or needle should take the circuitous route which it was sometimes alleged it had travelled, but that such accounts should be received with great caution. We may just mention here, that in the Registrar-General's Report for the week ending October 12, 1850, the widow of a tailor is mentioned as having died of paralysis at the age of sixty-three. On a post-mortem examination, a needle was found in the capsule of the kidney. Now, we need hardly point out how likely it is that the needle entered by the loins, and lodged in the organ where it was found. Dr. Budd's patient is doing well, and she is very likely, now that she has been freed from these strange guests, to recover her health, under an appropriate tonic treatment.

Expulsion of Tape-Worm by the Male Fern.

(Under the care of Dr TODD.)

E. C——, aged twenty-three, a servant, lives in Hatton-garden, and has resided in London all her life. She never enjoyed good health, and for some time past has menstruated once a fortnight, sometimes more frequently, the discharge being always profuse, and accompanied with intense pain. When about five years of age she was relieved of a tape-worm by medicine, but has passed joints up to the present time, and suffered much from giddiness, palpitation, indigestion, and a gnawing pain in the region of the stomach, generally unaffected, but often relieved by eating. A fortnight ago her present illness commenced by fits of shivering, great lassitude, weakness and pain in the extremities, loss of appetite, and nausea. The patient was admitted into Lonsdale ward, very weak, and unable to sit up throughout the day. The shivering still continued; she complained of universal pain, more intense, however, over the hypochondriac and epigastric regions, where there was great tenderness on pressure. She still has the gnawing over the cardiac end of the stomach, and is much troubled with flatulence. The tongue is clean, but there is an unpleasant taste in the mouth.

The patient was given two ounces of castor oil immediately, and put upon low diet. On the third day after admission she took, early in the morning, and after having fasted on the preceding day, one drachm and a half of the ethereal solution of the male fern in one ounce of mucilage and eight ounces of water. A little time afterwards, two ounces of castor oil were administered to the patient. The medicine slightly purged her; no part of the worm was passed; but two days afterwards a round worm (*Ascaris Lumbricoides*) was noticed. A second dose of the ethereal solution was then given, and the tænia solium was ejected; the head was, however, not expelled with the great length of the entozoon which was rejected. Dr. Todd prescribed, first, quinine, and subsequently chloric acid for the patient; she became much better in a few days, and was discharged. It is to be sincerely hoped that further trials will contribute in fully re-establishing the reputation of the male fern as a vermifuge in tænia solium.

Latent Meningitis.

(Under the care of Mr. PARTRIDGE.)

IT is agreed on all hands that symptomatology forms a very important branch of medical investigation, and no small amount of perspicacity and reasoning powers are required carefully to observe symptoms, weigh their value, and deduce from them the probable organic or functional derangement which we are called upon to treat. By reading systematic works on the practice of physic, and by frequently seeing the deductions of the medical adviser, founded on symptoms realized either in the dead-house or by manifestations in the patient, one cannot fail to be impressed with the fact, that much has really been done in the art of observing symptoms, and drawing inferences from them. As a recent instance of diagnostic penetration, we might mention a passage of Mr. Bransby Cooper's introductory lecture, (THE LANCET, *ante.*) in which Dr. Addison's acumen in diagnosis is mentioned.

The chest is certainly of the three cavities the one which, in our days, may be said to be investigated with the greatest accuracy, the abdomen next, and the brain last. We need not dwell upon the fact, that the rhythmical movements of the thorax are very favourable to auscultation, that the facility of palpation is of much advantage when examining the abdomen, and that the brain is not so easy of access as either of the two other cavities. With cerebral affections the physician is therefore obliged to trust principally to signs, and we are induced to bring forward the present case, lately under the care of Mr. Partridge, to impress upon our readers how it may happen that symptoms be not trusty indices of the changes which a vital organ may have undergone. It is one of those cases, the consideration of which will worthily occupy the thinking practitioner for a few moments, and convince him that the examination of patients *can never be too minute.*

The following history is principally taken from Mr. Hewitt's notes. The patient, aged about forty-two, and a mason by trade, was admitted, under the care of Mr. Partridge, August 10th, 1850. His habits had been intemperate, he had a dissipated appearance, and came to London to seek employment. A scaly eruption (partly tuberculated, and partly dipped with red scales) was covering the left side of the forehead, and his whole body was covered with lepra, which had assumed a somewhat pinkish hue. This cutaneous manifestation was at first looked upon as of syphilitic origin, and the patient, being questioned as to the primary symptoms, stated that he never had had any ulcerations on the generative organs, but had, some years ago, suffered from gonorrhœa. The fact of chancres not having been noticed by the patient is not a sufficient proof of their never having existed, for M. Ricord has shown that such ulcerations may exist, either in the canal of the urethra, or in some other concealed portions of the frame, without being noticed. Thus, the present eruption might still be of a syphilitic character, though the patient saw no chancres. But it should be likewise remembered, that some authors on syphilis believe that secondary eruptions may follow gonorrhœa, which doctrine is certainly not so well supported by facts and reasoning as M. Ricord's opinion, which is, that gonorrhœa is never followed by secondary symptoms. Still it might be asked, whether an eruption, when of a specific origin, has not some peculiar characters which might make it at once recognised? Most surgeons of experience, and Ricord himself, are inclined to answer in the negative; and though the copper-colour, the absence of fever, &c., have certainly some weight, the history of the case, and the existence or non existence of other syphilitic symptoms, must be our chief guides.

In looking at the present case in this manner, the origin of the eruption might be looked upon as quite benign. The patient's eyes, which were rather prominent, had both suffered: the right was disorganised by a blow from a child many years previously; and the sight of the left was defective, the lens having a general hazy character, not sufficiently marked, however, to constitute cataract. The only other ailment the patient complained of was a swelling over the metatarso-phalangeal articulation of the left great toe, with an inflamed bursa in the same locality. The pulse was *slow and weak*, and the digestive organs in a pretty good condition. The patient made no complaint about his head; he was quite sensible and rational, and anxious to be relieved both as regarded the eruption and his defective vision.

Mr. Partridge ordered the warm bath and an aperient draught, and soon afterwards, with a view of counteracting the patient's growing debility, prescribed ammonia and bark, with good nutritious diet. The man continued under this treatment without any apparent change for three days, when shortly before 10 o'clock on the evening of the fourth, he was seized with an epileptic fit, which lasted with slight intervals until about one in the morning. Mr. Wood, the house surgeon, gave him a strong purgative, directed cold to be applied to the head, and a stimulating enema to be administered. The latter acted well, and during an interval of the fits the patient stated that he was not subject to the seizures. About two the same morning the fits increased in violence; leeches were applied on both temples, but without much effect, as the fits continued without intermission, and the man died at half-past eight in the morning. During the night the urine was examined, and found to be very acid, but not albuminous.

The necropsy took place eight hours after death. On opening the head, a general thickening of the pia mater was observed, as well as a deposit of lymph over the anterior convolutions of the cerebrum. On the surface of the left hemisphere there was a thick grey deposit of cartilaginous hardness glueing together (though not strongly) the layers of the arachnoid membrane. On making a section of the cerebral substance, this deposit was found to affect both the grey and white matter, the colour of the grey substance being lost in the mass, and the white matter in the anterior of the convolutions was softer than natural, and easily giving way to slight pressure. There was much effusion into the ventricles, spinal canal, and sub-arachnoid space, and the left optic tract was smaller than the right.

Here, then, the pia mater was thickened, the anterior convolutions were covered with lymph, and there was a hard deposit on the left hemisphere, which dipped pretty deep into the substance of the organ, and glued the layers of the arachnoid. These pathological alterations can hardly have been contemporaneous, and the hardness was probably of longer standing than the exudation of lymph. The latter seems, in fact, to have resulted from the sudden inflammation of the pia mater, which may have been chronically affected, and brought to an acute state by some exciting cause. No sign or symptom pointed to these various changes when the patient was admitted, his pulse being *slow and weak*; nor is it in the least likely that the affection of either eye was connected with the cerebral changes, but the eyes being prominent might have some reference to the abnormal state of parts within the skull. At all events, the convulsive seizures had much similarity with true epilepsy, and it might be conjectured that those persons who are subject to fits may sometimes be labouring under a latent inflammation of the cerebro-spinal pia mater, which, in the absence of direct stimuli from without, has no effect upon the cerebral manifestations, but that the fits occur when the latent inflammation is heightened by an exciting cause. In the present case, however, the inflammation had been so intense as to be followed by fibrinous exudation, and the fits had therefore followed each other rapidly, and ended in death. It will, then, be evident, that in similar cases the slightest symptom pointing, however faintly, to the state of the meninges, would be extremely valuable, as, by the proper means, such seizures as the above-described might be forestalled and a fatal issue at least indefinitely postponed.

Cases of Pleurisy; Question of Tapping the Chest for Serous Effusion, or Empyema.

(Under the care of Dr. Budd.)

There are perhaps few diseases over the treatment of which hangs so much uncertainty as pleurisy; and though the diagnosis of the affection, when simple, is not surrounded with much difficulty, the physician is often beset with a very inconvenient doubt as to the real nature of the effusion when that event has taken place. Paracentesis thoracis has been, in common with various other operations, in great favour and much discredit at different periods, the present generation of physicians being rather inclined towards this means of cure or relief than otherwise, though they seem to have recourse to it in a measured and prudent manner, which precludes all possibility of its being uselessly employed. If we take, for instance, Dr. Watson's opinion on the subject, we shall find that the modern school in this country is far from rash as regards tapping of the chest. Dr. Watson thus says—"In my judgment, that operation (paracentesis thoracis) ought never to be performed unless the life of the patient is, or seems to be, in jeopardy, from the continued presence of the liquid within the thorax." Nor have we found, in our nosocomial peregrinations, that this rule is much departed from.

It should, however, not pass unnoticed, that some physicians on the other side of the Channel are rather bolder in their practice, and among these M. Trousseau should be particularly mentioned. He has published several cases of pleuritis followed by empyema, especially in young subjects, where tapping of the chest was attended with good results. Tapping was likewise resorted to by M. Trousseau where serum only was effused, and some cases have done well. Very clear and distinct indications as to the proper time of performing paracentesis are, however, not yet in the possession of the profession, and much remains to be done in that respect. Still it would appear, from a discussion which lately took place in the Medical Society of Hospitals, at Paris, that M. Trousseau does not look upon orthopnœa as the only indication for tapping, but that he attaches much importance to the *amount* of the effusion, whether great difficulty of respiration is experienced or not. The above-named discussion took place on a case of chronic pleuritis in a man of fifty, who had died suddenly, without having previously manifested any urgent symptoms, and whose right pleural cavity contained five quarts of serum, the right lung being carnified, and the left pleura and lung quite healthy.

In the London hospitals, paracentesis thoracis is seldom resorted to for the evacuation of mere serum, save where the symptoms are particularly distressing; but when the effusion is suspected to be purulent, the most common practice is to give it vent artificially through the walls of the chest. Dr. Budd has lately had under his care several cases of pleurisy, each of which presents interesting characteristics and instructive features. We shall attempt to give a slight sketch of the most prominent facts connected with them.

The first is that of a boy of fifteen, who was admitted August 15th, with the whole of the right side full of liquid, this state of things being recognized by the usual symptoms. The respiration was 28, and the pulse 108. He had experienced some difficulty of breathing three weeks before admission, and had some cough; but he continued to follow his occupation within a week of his entrance into the hospital. Dr. Budd considered that the effusion was very probably composed of serum and coagulable lymph, judging from the slight symptoms which the patient had had; and the next question to be answered was, whether the pleuritic affection had not been excited by the presence of tubercles. The chest was carefully examined, and none of the physical signs of phthisis were made out. The treatment then consisted principally of those means which were likely to promote absorption and excite diuresis. Blisters, saline mixtures, &c., were used with very beneficial results for six weeks, and the boy improved remarkably, the symptoms disappearing one after another.

The second case refers to a young man, twenty-one years of age, who was admitted on the 1st of August, with very clear signs of abundant pleuritic effusion. He had had pain in the chest, cough, dyspnœa, and could not lie on the painful side of the chest. Dr. George Johnson had first seen him as an out-patient, but he was admitted into the hospital when the symptoms of effusion became distinct. Dr. Budd first treated the case by those means calculated to promote absorption; but the breathing becoming very embarassed, it was thought advisable to evacuate the effused fluid by small portions, so as gradually to favour absorption, and the expansion of the compressed lung. The trocar was introduced between the fifth and sixth rib, and a serous fluid escaped with great force through the canula; it was allowed to flow until the impulse was somewhat abated, and the wound was closed in the usual manner. No particular faintness was experienced; the breathing became slower, and the patient appeared relieved. A certain amount of falling in of the chest was expected, but this did not take place; the cavity of the pleura seemed to refill very rapidly, and Dr. Budd considered that the case was not favourable for the repetition of the operation. He even suspects that the admission of air may have contributed in changing the nature of the effused fluid, and given it purulent characters. Though this case is not complete, we mention it cursorily as exemplifying a peculiarity of the disease before us.

Third case. This patient is a boy about ten years of age, who had severe pleuritic symptoms in August last; he was admitted at the beginning of September, and presented for one month purely pleuritic symptoms with effusion. The left side of the chest was very much distended, and he began all at once to expectorate purulent matter of a fœtid smell. This circumstance evidently indicated that the purulent effusion had found its way into the bronchi through a perforation in the lung; and as no physical signs of the existence of tubercles were made out, it could be conjectured that the effused pus had caused ulceration of, and a fistulous passage into, the lung. The patient continues to expectorate much pus; and though there are some chances in his favour, the prognosis cannot be looked upon as favourable.

The three preceding cases show, in a very instructive manner, how difficult it is to frame any rules for the treatment of the pleuritic affection. Here the patients were all young; the disease seemed in all uncomplicated; there had been no small-pox, scarlatina, &c., nor evident signs of phthisis; yet with one, counter-irritants and diuretics meet with success; in the other, tapping of the chest is not followed by favourable results; and in the third, the effused fluid makes a way for itself through the lung.

It remains now for us to mention the fourth case, in which a former affection had much influence on the pleuritic phenomena. The patient is a little girl who had had scarlet fever, which led to a pleuritic effusion of the left side; the pain had been very severe, and the usual signs of an abundant quantity of fluid in the pleura had been found. A swelling formed in the front of the chest, whilst the child was under treatment, and it was perceived that the effused fluid was tending to the surface. The tumour, which distinctly fluctuated, was therefore opened, and a large amount of purulent matter escaped, the tapping of the chest having thus been effected by Nature alone. The child, being somewhat emaciated, was given cod-liver oil. The fistulous opening in the parietes of the chest continues to give passage to purulent matter, but the little patient's health has much improved for some weeks, and it is very likely that she will ultimately recover, the more so as respiration is very audible at the upper part of the affected side, both anteriorly and posteriorly.

These conservative efforts of Nature seem to point to the tapping of the chest as likely to do much good in certain cases, though great caution and discrimination are certainly required. The results of paracentesis in empyema are generally unfavourable, principally because that operation is resorted to in complicated cases, where the escape of the pus through an artificial opening in the chest is merely attended as a palliative. We have seen several cases of this description in the hospitals of London; among these we recollect one under the care of Dr. Wilson, at St. George's Hospital. Here the pleuritic affection had followed small-pox; the patient was tapped several times by Mr. Henry Charles Johnson, when large quantities of pus were evacuated; the patient, however, sank exhausted under the constant drain. Dr. Barker, at St. Thomas's Hospital, had likewise under his care, some time ago, a young man with purulent effusion into the pleura; tapping was performed by Mr. Dixon; much pus escaped, but the patient was carried off by phthisis. We likewise saw a patient of Dr. Addison's, at Guy's Hospital, undergoing the operation of paracentesis thoracis for empyema; Mr. Birkett tapped the patient, much purulent matter was evacuated, and it was supposed that no air had penetrated into the chest, as a small piece of linen had been attached to the mouth of the canula, which acted like a valve; this patient had likewise consumptive symptoms, and died of phthisis.

But where the effusion is uncomplicated, and unconnected with any organic change, timely evacuation of the purulent matter may, perhaps, hold out some hopes of ultimate recovery. Dr. Budd mentioned, in a very instructive clinical lecture which he gave on the above cases, that he had had in private practice a patient who was now in tolerable health, and who had been tapped for empyema under his direction and the approval of Drs. Watson and Latham. The patient was a young gentlemen, twenty years of age, who, after pleuritis of the right side, had spat up purulent and fœtid matter; this abundant and constant fœtid expectoration, and hectic, had much reduced him, and as he was likely to sink, Dr. Budd advised tapping of the chest, which was performed by Mr. Stanley. Though the case stretched over more than a twelvemonth, and presented many difficulties, the patient had ultimately done well, the purulent expectoration having ceased as soon as the artificial opening had been made. We have much to learn with respect to the influence of paracentesis thoracis, both in serous effusion and empyema, but great attention has of late been given to the subject, and it is likely that important results will spring from the researches which have been made, and are making, by eminent members of our profession.

Ununited Fracture of the Femur; Resection of the Fragments; Death; Autopsy.

(Under the care of Mr. FERGUSSON.)

IF our readers will refer to THE LANCET they will find the report of a case under the care of Mr. Gay, at the Royal Free Hospital, where an ununited fracture of the femur was treated by the different means advised in such a circumstance. They proved unsuccessful, and the patient sank after the amputation of the limb, which had been had recourse to as a last resort. We stated at the conclusion of that report, that we had just witnessed the resection of the fragments performed by Mr. Fergusson at King's College Hospital, in a case somewhat analogous to Mr. Gay's, and we now proceed to give an account of its progress and termination.

The patient was a very stout man, about forty-two years of age, who before he broke his thigh had enjoyed good health. This accident had happened two years previously, whilst he was in North America, and the means used to obtain union, both in that country and in England, had utterly failed. He had been admitted under the care of Mr. Fergusson several months before the resection took place, when the part resisted the usual measures resorted to in such cases; and the false joint, situated towards the middle third of the femur, was as moveable as ever, when the patient was re-admitted in the beginning of October, 1850. Hardly any alternative was now left but trying to obtain union by resection; the patient was accordingly brought into the theatre, October 5, and Mr. Fergusson proceeded to operate in the following manner, the patient being under the influence of chloroform.

A longitudinal incision, about four inches long, continued into a transverse one about the same length, was made just above the false joint. A sufficient flap was then dissected off, and the femur brought into view. Mr. Fergusson now removed a piece of the upper fragment, about an inch and a half in length, by means of the saw; portions of the lower one, the extremity of which was deeply situated, were taken off with the cutting pliers, and the bone subsequently scraped. The operation was necessarily protracted, as the stoutness of the patient caused some difficulty in the application of the instruments. The lips of the wound were then carefully brought together, and the patient removed.

Mr. Fergusson then addressed the students, and stated that this case was one of those which occasioned the surgeon a great deal of anxiety; and it was not an easy matter to determine what course was at the same time most efficacious and safe. The femur had been broken two years ago, and every care had been taken to bring about union, but without success. The patient being accustomed to a seafaring life, was by this unfortunate circumstance quite incapacitated from following his occupation, and it was of great importance to him that no means likely to promote union should be left untried. The patient had been originally admitted into this hospital a twelvemonth ago, and various measures resorted to in order to obtain union.—Among these Mr. Fergusson would mention the plan recommended by Mr. Miller, of Edinburgh: it consisted in passing a fine blade between the fragments, the ends of which were scraped by the instrument; this practice had not been successful in this case. Inflammation had been repeatedly induced at the seat of the false joint, but to no avail; no callus was thrown out, and no attempt at osseous deposit could be noticed.

The patient was then advised to spend some time in the country to recruit his health, and told to present himself again on his return; and now Mr. Fergusson had several alternatives as to the course to be pursued; the seton might, for instance, be used, or re-section of the bones tried. The first of these measures did not seem to him to hold out any prospect of success, as inflammation, by various means, had already been excited in the false joint. He therefore gave the preference to resection, which the pupils had just seen performed. He (Mr. Fergusson) considered that it was no easy matter to reach the end of the fragments with the saw or pliers, notwithstanding the operation is described as of easy performance in books. As the false joint existed in this case towards the middle third of the femur, just where the main vessels of the limb wind round the bone, great caution was required to avoid wounding these important parts. Indeed, he had been very apprehensive of such an accident when introducing the narrow blade between the fragments according to Mr. Miller's method. In this instance, the lower fragment lay very low and close to the vessels; a greater amount of prudence was consequently requisite, and the cutting pliers were therefore used instead of a saw. He had, however, succeeded in scraping the bone, and removing several pieces. Mr. Fergusson had found, during the operation, the extremities of the fragments smooth and rounded, just as if each of them had been surrounded by a capsular ligament, though there was not an actual synovial cavity between the bones.

The result could of course not be foretold; a simple fracture had now been transformed into a compound one, and the patient must now run the risk connected with the latter accident. He (Mr. Fergusson) had, within his experience, seen good results from the operation they had just witnessed. As to the un-united fracture the actual cause of the want of union was still a mystery in many cases, and he considered that the subject was well worthy of the attention of physiologists and pathologists.

After the patient had been placed in bed there was slight oozing of blood from the wound, but this hæmorrhage was stopped without difficulty. The greatest care was taken by means of the long splint and bandaging to keep the ends of the divided bones in complete apposition. During the first three days the patient complained of startings and jumpings in the muscles; a piece of lint was kept in the wound, which not only promoted cleanliness, but also had the advantage of gently irritating the parts and keeping up a sufficiency of action. The patient progressed pretty well for the next seven days, when he became somewhat feverish, thirsty, and complained of severe starting in the affected limb. Every appropriate means was taken to allay his feverishness, but five days afterwards, the patient had an attack of shivering, which lasted a quarter of an hour; effervescent draughts, wine, and nourishing diet, were prescribed, with attention to the bowels. A few days after this attack, a shivering fit of one hour's duration occurred, the tongue was furred; there was much thirst, and the pulse rose to 104. These fits now followed each other pretty rapidly, and the pulse became frequent and small. The patient vomited a fluid of the colour and consistence of coffee-grounds, and he sank twenty-four hours after the operation.

The post-mortem examination took place thirteen hours afterwards; and on laying bare the affected femur, a piece of necrosed bone was found between the ends of the fragments. Several large branches were given off from the artery near the fracture, and the veins situated in the vicinity of the fragments were found quite healthy. The lungs, liver, and kidneys were examined, as to the likelihood of purulent deposits in these organs, but no such alteration was discovered. The bladder was contracted, but healthy; and the aortic valves were slightly thickened.

In reviewing the various circumstances connected with this case, we have been struck by a fact which is worthy of remark—viz., the liability of the surgeons of metropolitan hospitals to treat cases where previous errors had been committed, they being then called upon to use extreme measures for rectifying the abnormal state of things presented by the patients. This we constantly see; and if any doubt existed in this respect, we would refer to Mr. Norris's paper in the *American Journal of Medical Science*, vol. xxix., Jan., 1842. It is there stated, that in the hospital of Pennsylvania, out of 946 fractures treated between 1830 and 1840, union did not fail to take place *in any one case;* the thirteen cases of false joints which were admitted *having all been first treated* out of the establishment. As to the frequency of non-union, M. Malgaigne says, in his work on Fractures, that we do not yet possess satisfactory statistics; he adds, however, that Mr. Walker, of Oxford, found only six or eight ununited fractures in in about a *thousand* cases of broken bones he had treated. Sir Stephen Hammick had only had three cases of non-union in his whole practice; Liston had but one; Pearson one out of 367; Lonsdale had seen only five or six cases of non-union, among about 4000 cases of fracture, treated, at the Middlesex Hospital, in the space of ten years; and Malgaigne himself has never seen a case of false joint, in his own practice, and has met with but eleven examples of such an unpleasant termination.

It may, then, safely be asserted, that it is very rare that fractured bones refuse to unite. It is maintained in systematic works that cases of non-union do occur, where it is impossible to discover the cause of this unfortunate result. Malgaigne, however, states, in the work above mentioned, that such cause, if diligently looked for, may generally be found out. He divides the causes, first, into those which affect the system generally; secondly, the local ones; and thirdly, those which are connected with the position of the fragments. Among the first he ranks gestation, scurvy, and syphilis. As to gestation, though it has seemed to retard union in some instances, it can hardly be looked upon as a fully ascertained cause. Mr. Norris has great doubts about it, and as to ourselves, we may perhaps be allowed to mention a very interesting case, which occurred at St. Bartholomew's Hospital, under the care of Mr. Stanley:—A middle-aged woman met with an accident, by which her left tibia was fractured, she being in the fifth month of her pregnancy. The bones united well, in about six weeks, when she left the hospital in good condition. Even a solitary case would prove that gestation does not *necessarily* bring obstacles to the union of bones. Scurvy may have some influence, but the action of syphilis is somewhat obscure.

Among the local causes, M. Malgaigne mentions paralysis, the ligature of arterial trunks above the fracture, phlegmon, erysipelas, &c. And as to those which are connected with the position of the fragments, he names—1. The obliquity of the fracture. 2. The gap between the fragments. 3. The interposition of foreign bodies between them. 4. Suppuration in compound fractures. 5. Want of nutrition in one of the two fragments. 6. An affection of the bone near the fracture.

Besides all these causes, some may be found in the treatment itself: 1. The abuse of moist applications. 2. Bandaging too soon. 3. Too tight a roller. 4. Bandages kept on too long. 5. The great mobility of the fragments. 6. The premature use of the limb. M. Malgaigne is of opinion that one of the above enumerated cases *must* have its share in non-union, and that we ought to strive to avoid their action with great assiduity. He very justly remarks:—

"There being so many obstacles to the union of broken bones, it is astonishing that cases of ununited fracture are so rare. It is probably because many of these causes exhaust their power in *retarding* the consolidation, without absolutely *preventing* it; and it is very difficult to say, unless five or six months have passed away, whether we have to deal merely with delayed union or actually a false joint."

The latter remark appears extremely just; and it may well be said, that union often takes place *in spite* of faulty apposition of the fragments, the rubbing of the latter against each other, and *a more careful coaptation*, having many times brought about perfect union. Of these facts we lately had two examples in British medical periodicals,—one being a case of Mr. Houghton, of Dudley, published in the *Provincial Journal* of October 16, 1850; and the other, under the care of Mr. Crompton, of Birmingham, inserted in the *Medical Gazette* of November 15, 1850. In the first case, the tibia and fibula were fractured in a strong and healthy man; union did not take place after eight weeks. Mr. Houghton then put up the limb into gutta percha splints, placed a starch bandage over it, and made the patient walk about on crutches. Consolidation after this took place in two months.

Mr. Crompton's patient was a girl of twenty-seven, with a broken humerus, which did not unite for four months. The fragments were rubbed, and put up two different times, without union occurring. A seton was then passed, and eleven months afterwards imperfect union had taken place. Mr. Crompton had used the seton three times for ununited fracture of the humerus, and two of the cases were successful. Mr. Crompton mentions that he treated three cases of ununited fracture of the tibia by the seton, but he does not possess accurate data concerning the ultimate result. One case of non-union in the thigh likewise came under Mr. Crompton's observation; he advised non-interference, as the man could walk with the assistance of a strong leather case.

The seton was quite out of the question in Mr. Fergusson's case, and other means had been tried. It will, however, be interesting to inquire into the statistics of the various modes of treatment which have been advocated in cases of ununited fracture; we therefore subjoin the figures furnished by Mr. Norris's paper, taking advantage of Mr. Crompton's quotations. Of 46 cases treated by seton, 36 were cured, three partially so, five received no benefit, and two died. Of 38 in which resection, scraping, &c., were used, 24 were cured, one partially so, seven received no benefit, six died.

When nearly two-thirds of the cases treated by resection are *cured*, and only about one-sixth die, it is not to be wondered at that surgeons have recourse to that operation.

Of 36 in which pressure and rest were used, 29 were cured, one partially so, six received no benefit. Of 11 in which frictions were had recourse to, 11 were cured; but in 36 cases cured by seton, friction had failed in eight; and in 24 cases cured by resection, friction had failed in five. In the 38 cases in which resection was performed, accidents, *not* ending in death, but dependent on the operation, followed nine times—namely, erysipelas, six; profuse suppuration and abscesses, two; phlegmasia dolens, one. In mentioning phlegmasia dolens, we cannot refrain from alluding to the greater liability of the male sex to ununited fracture. Out of 147 cases given by Mr. Norris, there were but four women, and Malgaigne's cases referred all to men.

Mr. Norris concludes that the mortality after operations for the cure of ununited fracture follows the same laws as after amputations and other great operations upon the extremities—viz., that the danger increases with the size of the limb operated upon, and the closer to the trunk the operation was performed, the mortality being greater when the thigh or humerus are affected than in the leg and arm; that the seton and its modifications are more safe, more speedy, and more successful than resection and caustic, and that the seton is the least successful on the femur and humerus. We shall conclude with a very important remark of Mr. Crompton:—"Possibly it might be found that fracture near to a joint, or to the insertion of some powerful muscle, would have much influence in producing such an accident, (non-union, on account of the increased difficulty in such situations of obtaining perfect immobility."

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Saturday, Dec. 21, 1850.—Dr. J. R. Bennett, President.

UN-UNITED FRACTURE.

Mr. **Gay** laid upon the table two portions of the end of a femur, which had been removed in a case of united fracture. The bones were roughened at their extremities by small portions of osseous tissue which had been irregularly thrown out. These small masses were not deposited in such a manner as they would have been, had any tendency to reunion manifested itself, and were more porous than healthy bone. Ten weeks elapsed from the time of the resection to the amputation of the limb, and although the condition of the external wound gave indications of a healing tendency, yet at the end of that period the state of the limb showed that no attempt at union had taken place. The ends of the bone had been firmly kept in apposition. The patient was a fine healthy individual, and it was difficult to determine why no more efforts at reparation had been made.

Dr. **Lankester** exhibited a specimen of

ANEURISM OF THE AORTA.

The patient, a tailor by trade, aged thirty-nine, was admitted, in June, 1847, an out-patient at the Royal Pimlico Dispensary. He complained of pain and beating on the left side of the chest, which he had felt more or less for some months. On examining the chest, the heart's impulse was much increased, and a pulsating tumour was perceived between the first, second, and apparently the third ribs. Pulsation was very strong and distinct on placing the hand over the tumour, and both sounds of the heart could be heard on applying the stethoscope over it. The sounds of the heart were only feebly heard on the sternal side of the tumour, and below it. The second sound was accompanied with a slight bruit. From the time of his admission to the day of his death, a period of thirty months, he continued to follow his occupation of a tailor. For a little time he suffered with symptoms of rheumatism, which prevented his walking about a quarter of a mile to his place of business. He was able to resume this, and died on Monday last in his workshop. For the last fortnight of his life he complained of swelling of his legs, but it was not enough to inconvenience him in any manner. The evening (Sunday) before he died he complained of lancinating pain of the left side, but on Monday morning was as well as usual; he had remained at his work during the morning, and was about to get off the shopboard to return to dinner, when he suddenly fell back and died. During the progress of the disease, the tumour at one time enlarged rapidly and acquired a pointed character, with a slight redness on the summit, as though ulceration was about to take place. This, however, went off as the tumour appeared to widen at its basis. From the first the pulse was decidedly feeble, and more so on the right side than on the left, and latterly it was almost imperceptible in the former. The treatment consisted in the administration of sedatives. He first took digitalis, subsequently henbane and opium, with relief to the pain and sensation of beating which constantly annoyed him. All stimulants in diet were forbidden, and a diet as nutritious as he could afford recommended. He gradually got thinner, but the emaciation was not great at the time of his death.

Post-mortem Examination.—The tumour had entirely disappeared, and in its place was a depression in the skin surrounded by apparently elevated bony edges. On opening the thorax the left pleura was found filled with serum and cloths of blood. There was also serum in the pericardium. On lifting up the sternum it was found that an aneurismal cyst had formed firm adhesions with a part of the sternum and the first, second, and third ribs of the left side. On examining the swelling from the pleura, a longitudinal opening was found in the sac, which had undoubtedly been the cause of the effusion of blood into the pleura, and the death of the patient. On examining the aorta the tumour seemed to occupy almost entirely the transverse arch. It was of large size, extending backwards, without pressing on the œsophagus, or trachea. In front it had separated the first and second ribs, producing a curve upwards in the former, and downwards in the latter, thus forming a bony circle round the part of the cyst which projected externally. Above the edges of the bone, in front, were two pouches, around the base of the principal projecting part of the cyst, which served to extend its base externally, and gave it a much larger calibre than the spaces between the bone. The orifice of the subclavians and carotid were permeable. The exit from the cyst into the descending portion of the aorta was much contracted. The heart was healthy, but appeared small. The lungs were perfectly healthy.

Mr. **Walton** read a paper on

EXCISION OF THE HEAD OF THE FEMUR.

The author said that he selected this subject, which had occupied the attention of the profession for the last few years, and about which there was much conflict of opinion, for the purpose of soliciting the views of the Society, and getting the matter fairly discussed. The question which he begged to propose was, at what stage of disease of the hip-joint may the operation of removing the head of the femur be performed. He agreed with those surgeons who received the operation, with certain restrictions, as admissible. To answer the question, two considerations were necessary—Firstly, the state of the local affection; and secondly, that of the system at large. Regarding the first, the reparative powers of the system were sometimes exercised in an astonishing degree, but often failed, there being no attempt at repair. It was where the power of the system had been prostrated from local irritation, and the chance of a natural cure had departed, that he thought surgical aid may sometimes be resorted to. He pointed out that it was the disease of the osseous tissue of the joint that perpetuated the evil of morbus coxarius, and related some remarkable instances where a very minute spot of diseased bone had kept up suffering for years. Then, of that general condition of the system that coexisted with the local affection, with reference to the admissibility of an operation, he showed that unsoundness of the lungs, or of some of the abdominal viscera, may always be suspected in the advanced stage of morbus coxarius; and with disease an operation would of course be out of the question. Another important question was, the extent to which the bony structure of the joint was usually diseased, and under what amount of implication would there be justification in operating?

He doubted the assertion, that the acetabulum was as frequently diseased as the head of the femur; but putting that aside, there was a reparative power displayed in an unhealthy acetabulum that was not met with in a like manner in the head of the femur when it was diseased, the morbid acetabulum often getting well, while the other bone remained unsound, and killed the patient. The implication of the os innominatum was the argument used by those who object to the operation; and unquestionably he thought that few operations could succeed were they performed when that part was unsound. He showed the difficulty of diagnosing whether there was, or was not, dislocation, and which arose from cessation of the growth of the femur, the loss of a portion of its head, the shortening and loss of obliquity of its neck, the flatness of the nates, and the uncertain direction of the foot. Concerning the principle of the operation, he adduced examples from the daily practice of surgery, and even from Nature herself. The conclusion at which he arrived was, that there were cases where the disease was limited to the head of the femur, the acetabulum healthy, and no longer implicated; that was having recovered if it had been diseased, the head of the bone dislocated, and lying in a sinus, or abscess cavity, the patient sinking from exhausting suppuration, there being no internal disease or other manifestation of external local injury than that in the hip, that removal of the head of the femur would save life. He gave the particulars of twelve cases that had been operated on, two of which were his own, six of which had died, and six of which had recovered; and showed that the per centage of recovery, although large, was less to be thought of than the rescue of the patients from that forlorn and hopeless state in which they lay. Two other cases were mentioned, the results of which he was not able to learn. The formation of a false joint appeared to be about the earliest reparative act. He remarked, that removing the head of the femur when it was discolated, and lying, as it were, loose, was a very much less severe measure than was generally imagined. In eight cases where he had been present not a ligature was required; the amount of blood lost was surprisingly small. This was important, as with such patients every drop of blood was of the greatest value. The operation could scarcely be classed among the mutilating ones. What was taken away was not, strictly speaking, missed, and no more deformity was produced by its loss than existed in those cases in which there was recovery after an advanced stage of hip-disease with dislocation. The amount of bone to be removed must depend upon circumstances; but, *cæteris paribus*, he thought that the removal of the head would suffice, provided the disease did not extend beyond. He had avoided using the term caries, because it had received such dissimilar significations that he did not know how to apply it; besides, no one single term could express the conditions of the bones in morbus coxarius, because they were found in very different states, as he showed. One author spoke of caries as mere ulceration, whether simple or malignant; another, as a rottenness or crumbling of bone. Mr. Stanley defines it, in his work on Diseases of Bones, to the changes which, under certain circumstances, were consequent on chronic inflammation in the cancellous structure of bone. Mr. Walton exhibited many casts, along with recent preparations.

Mr. B. **Travers** said that the operation of resection was old as the days of Galen, but was usually confined to cases where the proceeding was necessary from injuries &c., and had therefore nothing to do with the operation as at present under discussion. In the present case we have associated with the local mischief a constitutional disease, giving an entirely new aspect to the proceeding. Mr. White had first performed the operation among modern surgeons, but it had seldom been repeated; and as it could not be that surgeons were not as capable at the end of the last century as at the present time, they looked with some degree of disfavour on the proceeding, and it had consequently lain dormant for a long period. It was certainly an operation to be approached with caution, bearing in mind, as we must, the wonderful powers of nature in restoring bone in a state of disease. Look at the marvellous effects of nature in some cases of necrosis. He did not speak on the excision of joints quite without experience, for he had, in one instance, removed the head of the humerus for caries, but the operation did no good. With respect to Mr. Walton's cases, the sum of the evidence would not certainly encourage us to frequently perform the operation. It might be in some cases that, like opening an abscess, we removed the irritating cause by operation: but in the cases in which the operation of excision of the femur had been most successful, the limb, though preserved, was useless, and even cumbersome, to the patient. And even in those very cases which were held up as instances in favour of the operation, he really believed that if nothing had been done the patients would have had more useful limbs, and would altogether have been in a better position.

Mr. **Dampier** said that when the acetabulum was the seat of disease the operation should not be performed. In one of the cases related, the process of reproduction was going on. Looking at the condition of the limbs of those on whom the operation had been performed, he could not think the operation was a desirable one, even in some cases which were regarded as most favourable.

Mr. **Chalk** observed that the operation, if resorted to at all, must be approached with great caution. Nothing, perhaps, was more difficult in some instances than the diagnosis between cases of hip-joint disease and psoas or lumbar abscess. Even if this difficulty was overcome, the removal of the local scrofulous disease would not remove the constitutional affection. The patient, too, might die of hæmorrhage consequent upon the operation, as had been the case with one of the patients operated upon by Mr. Walton. It was by no means uncommon, in cases where the head of the thigh bone was diseased, to find some of the vital organs implicated, and this was another argument against the operation. It must be recollected, too, that in operations about the hip in this disease the reparative power of the soft parts was very defective; and the loss of even a very small quantity of blood in such a depressed state of the system was very injurious, and left permanent effects on the constitution. Looking at the reparative powers of Nature in scrofulous diseases of joints, and recollecting the many cases of recovery which he had seen, he should emphatically caution the practitioner against the use of the knife in any local scrofulous disease. He was convinced, from a long acquaintance with scrofulous disease in all its phases, that the less the surgeon interfered with it the better. Let attention be paid to the general health; let the constitution be studied, and the local disease would be cured.

Mr. **Gay** said that the real question before the Society was to determine the conditions under which the operation should be resorted to. The fact that eight out of fourteen persons were benefited and cured by operation proved its usefulness in some cases. What were those cases? He did not, with Mr. Travers, think that Nature would easily repair disease or injury to bones; but, on the contrary, that the osseous tissue was of all others repaired with the most difficulty; hence operations on bones were comparatively frequent. When the hip-joint was diseased, in some cases the constitution was so impaired by long and tedious suppuration, that some important organ might show signs of incipient, and, if allowed to go on, of even fatal disease. To prevent such a calamity, the surgeon might be called upon to operate, but only when the organs were healthy and the subject not scrofulous.

Mr. **Coulson**—Why, in these cases the patients were labouring under scrofulous disease of the hip-joint.

Mr. **Gay** was not aware that Mr. Walton had made such a statement; but he (Mr. Gay) would then say that the operation was not justifiable until the scrofulous taint in the constitution had been eradicated. It was useless to operate on a scrofulous subject, for the disease would return in some other part of the body. The acetabulum should also be free from disease in these cases. He then related a case in which he had removed the head of the humerus for disease of the shoulder-joint, leaving the glenoid cavity, which was diseased. The wound healed, leaving an obstinate fistulous passage; this remained open until the glenoid cavity had been resected. The operation described by Mr. Walton might be resorted to fearlessly in cases such as those he (Mr. Gay) had indicated.

Mr. **Henry Smith** would not have spoken on the subject had he not seen most of the cases which had been operated upon. Before, however, entering on the general question, he must say that he thought sufficient justice had not been done to his friend, Mr. Fergusson, for reviving the operation after its absence for so many years—nearly, he believed, half a century. Mr. Fergusson performed his first operation in 1845.

Dr. **Peregrine**—I saw Sir Benjamin Brodie perform the operation in St. George's Hospital in 1836.

Mr. H. **Smith** was not aware of the operation having been performed during the present century.

A **Member**—Why, Mr. Hewson operated on a case previous to 1836.

Mr. H. **Smith** had not been informed on this point before. He believed, however, that the case of Sir. B. Brodie was not published, and that the patient soon died. He still was of opinion that Mr. Fergusson had not had justice done him respecting this operation. With respect to the cases operated upon, the first was a lad, aged thirteen, who was operated upon in 1845: four inches of bone were removed. He saw the patient a month since, fat, hearty, and able to walk three miles with the help of a stick. The limb was well developed, and he wore a high-heeled boot. The case operated upon two years since was that of a girl: she was now a fine blooming creature, with a well-developed limb, and walked with only one crutch. He went into the country the day before to see her. Mr. Morris's case was operated upon last year. The limb was now three inches and a half shorter than the other, but the patient had perfect motion of the thigh; the cicatrix was firm; he suffered from no pain, worked well, and was a tailor. Mr. Fergusson had operated four times: three cases recovered. What were the fit cases for operation? He thought the greatest objection to operation was disease of the acetabulum. He thought the surgeon should be able to decide this point. When ankylosis occurred, great deformity was the result, and the limb was of little use to the owner.

Mr. **Lloyd** spoke at considerable length on the subject. He thought the Society were indebted to Mr. Walton for bringing a subject respecting which there was much difference of opinion, before the Society. The first question was this—Ought the operation ever to be performed? And secondly, if so, under what circumstances? He believed there might be cases which called for the operation, but that they were extremely rare. There were cases in which the life of the patient was threatened by repeated suppurations, and there was no other disease present. He thought, where the disease was scrofulous, constitutional remedies only were applicable. Cases of real scrofulous disease of the cansellous structure of the bone he thought of very rare occurrence. Mr. Lloyd then proceeded to give his opinion on the nature and frequency of scrofulous diseases of the joints, and proceeded to say, that the operation of excision was only justifiable in those cases of protracted disease of the joint where there were many sinuses, and the discharge was producing great weakness and exhaustion. Under these circumstances, the constitution being healthy, we might be justified in removing the head of the femur. The operation was attended with but little danger. By and by, however, when the treatment of scrofulous disease of the joints was better understood, he believed the operation would not be found necessary; all cases would be cured except those in which the constitution was so bad that the patient succumbed. With respect to the deformity resulting from ankylosis, the good surgeon would, during the process, keep the limb in a proper position.

Mr. **Coulson** said, that the importance of the subject brought under the consideration of the Society to-night can scarcely be overrated, for, amongst scrofulous affections, hip-joint disease occupies a considerable part. In the Infirmary, at Margate, there are about 230 in-patients, chiefly scrofulous, of whom rather more than one-seventh are hip-joint cases; therefore any attempt to relieve this frequent disease must always be regarded with interest. Let the fellows consider, then, firstly, what is the measure proposed for the relief of this disease by the author to-night? secondly, what is the stage of the disease in which this measure is proposed? thirdly, what conditions must be present even in this stage to render its adoption justifiable? First. What is the measure proposed? It is the removal of a portion of bone, more or less diseased, larger or smaller, if not implicating at least in immediate contact with, one of the largest joints of the body, and for a disease though usually intractable by surgical means, yet not incurable by constitutional treatment, and tending of itself towards a cure by the ordinary process of time. The operation is of easy performance, and were it not for the proximity of the joint, implicated to the trunk, and above all, for the peculiarities of constitution existing at the time, would be an operation devoid of danger. The gravity of the operation, then, in itself, is not the question, and renders it more imperative that we should be clear as to the principles which guide us, lest we be tempted, by the facility of its performance, to forget the responsibility of our position, and endanger the life of the patient and our own reputation. Second. The next question is, at what stage of the disease the operation is recommended? It is recommended in what is described as the fourth stage, when the limb is shortened, the toes inverted, knee crossed, and almost rivetted to the opposite side, and if touched, causing great agony, the thigh itself or the glutei swollen, and the muscles and muscular sheaths about the hip, or the upper part of the thigh, broken up by abscesses; sinuses in every direction, but too tortuous and too small for any finger to explore them; the spine twisted, and one iliac bone an inch or more above the other. In this stage there is great prostration of strength, and emaciation of the whole body, with night sweats and other hectic symptoms. For in this disease, it is not the articular symptoms which generally produce death, but exhaustion of the frame and strength, which the surgeon, looking to a local cause only, imagines to arise from a resistance to an incurable local malady, whereas the local malady and hectic are but symptoms indicative of one and the same disease. Mr. Coulson laid stress on this last point, because, to whatever extent the local malady may aggravate the general symptoms, as it is not the cause of these symptoms, so neither will its removal prove the remedy. 3rd. If the operation is to be performed—that is, when it becomes clear beyond a doubt that it is the presence alone of the local disease which maintains the irritation and is the exciting cause of such general disorder as to endanger life—we must even then have a clear conception of the conditions, local and general, under which the operation is justifiable. The first condition is the absolute displacement of the head of the bone, for as long as the neck of the bone and the trochanter in relation to the acetabulum, there is a chance of ankylosis taking place, which is the most favourable termination to be looked for. But dislocation is of rare occurrence, or how can that be displaced which has entirely disappeared in the process of disease? In a large majority of cases the head of the bone has ceased to exist; it has been destroyed by ulceration, and the trochanter has been drawn up to a level with the brim of the acetabulum, carrying with it the shaft of the bone and the limb. Thus if dislocation be a condition necessary to justify the operation, then a large proportion of hip-joint cases must be placed beyond the pale of this operation. Now arises the second consideration; not only must the head of the bone be dislocated, but it must also be diseased, and be the cause of such disturbance in the soft tissues around it and disorder of the system as to threaten the life of the patient. 4th. The next condition indispensable to justify this operation is the soundness of the acetabulum. Every surgeon must feel the difficulty of diagnosing, in parts so deep, the absence or presence of disease here. How often is found, even when the bone has been dislocated, strumous deposits in the acetabulum or, what is more important, caries, which terminates in perforation and thinning of the socket, in the defective nutrition of the bones themselves. In some of the cases recorded to-night, the acetabulum was not free from disease; and in the following cases sent to Mr. Coulson by their excellent surgeon at Margate—Mr. Field, it will be seen how often the acetabulum was diseased:—Jane P——, aged sixteen: died from exhaustion and constitutional irritation of diseased hip; head of femur rough, and deprived of cartilage; acetabulum deprived of cartilage, and perforated. Edwin C——, aged twenty-nine: diseased hip of seven years' duration; died of peritonitis; both acetabula, and heads of the thigh bones were diseased; head of one femur dislocated and partially absorbed. William W——, aged seventeen; diseased hip for ten years; died of chronic peritonitis, from large deposit of strumous matter in abdomen; head of femur and acetabulum both diseased, the latter with a large perforation. John M'G——, aged twenty-four: died of epistaxis; both bones diseased; the acetabulum perforated; head of femur entirely absorbed; the shaft atrophied, being not larger than a common-sized radius. It must not be supposed that what takes place in a healthy dislocation occurs in a diseased one, for the structures are in a very different condition. To fancy that the removal of the upper extremity of the femur in disease—whether effected by surgical means, or of its own accord in the course of the complaint—places the acetabulum in a condition favourable for recovery—is a supposition not supported by pathology, but directly opposed to what is known of the disease, involving the hypothesis that disease of the acetabulum was lighted up by the morbid condition of the head of the femur, and would cease by the removal of this cause. Now scrofulous caries at the head of the femur is a constitutional disease, caused by the same morbid diathesis as the disease in the acetabulum. Now let the point be considered by analogy. In scrofulous caries of the elbow-joint will the removal of the carious portion of the humerus cure the same condition in the ulna and radius? and what surgeon is there who would content himself, in excision of the elbow-joint, with removing one diseased surface, in the vain hope that the complaint would spontaneously cease in the remaining articular surfaces? 5th. There must be no disease in the other portions of the bones of the pelvis, or of the trunk, especially of the lumbar vertebræ. In the advanced stage of psoas abscess, and disease around the joint, there is often great difficulty in distinguishing these affections from disease of the joint itself, as the following two cases, which were supposed to be hip affections, will show. James G——, aged twelve, died from exhaustion and constitutional irritation of abscesses around the hip and thigh; disease of posterior part of ilium; joint sound. John S——, aged twenty-eight, died of ulceration of bowels; abscesses in groin, nates and thigh; disease of ramus and body of pubis; joint sound. But when the two diseases co-exist, then the difficulty and importance of the case are much enhanced. 6th. There should be no disease in any of the vital organs. It may be taken for granted that no prudent surgeon will operate when pulmonic disease or any symptoms indicative of strumous disease involving the organs of nutrition are present. Mr. Coulson then analyzed the cases related by the author, and expressed an opinion that excepting Mr. White's and Mr. French's cases, and three of Mr. Fergusson's, the conditions he had laid down as rendering the operation desirable were not present. Such was the fact regarding one of the cases operated upon by Mr. Fergusson, (with all due deference to that able surgeon,) and the cases of Mr. Morris and Mr. Walton. As to the case related by Mr. H. Smith, it was quite evident that in that instance the operation was quite unjustifiable. Why, look at the preparation on the table; it must be evident to every one that the bone itself was not in such a state of disease as would warrant any surgeon in using the knife; but worse than this, the acetabulum was filled up with ossific deposit. But this was not the worst part of this unfortunate case, for not only was the local disease insufficient to warrant any operative procedure, but the man was absolutely at the time labouring under incurable disease of the kidneys, as was evidenced by the dropsy and other symptoms presented. So that, under every circumstance, this case could not have been successful. Bad as it was, however, the cases of Mr. H. Walton, were, if possible, worse; they were, in fact, bad as bad could be, and the operation in these instances could not on any principles of surgery be considered either safe or justifiable.

Mr. Walton, in reply, said he agreed with Mr. Travers that the cases in which the operation should be performed were very rare. He differed, however, from him respecting the salvation of life in these instances, as in some of the cases he had related, the patients must otherwise have sunk. Mr. Chalk was no doubt perfectly correct in stating the difficulties of diagnosis between the disease under consideration and the advanced stage of lumbar abscess. He could detail cases in point, but time would not allow it. Mr. Chalk, however, was wrong in supposing that one of his, Mr. Walton's patients, died of hæmorrhage consequent upon the operation, as the hæmorrhage from which he sank was found to have originated in ulceration of the femoral vein. He (Mr. Walton) had not overlooked the point respecting dislocation, and the difficulty of its diagnosis. He regretted that time did not permit to enter further into the question under discussion.

Saturday, Dec. 28, 1850.

Dr. Borlase Childs exhibited to the Society the

HEAD OF AN ANENCEPHALOUS FŒTUS,

of which he related the following: The mother was attended by Mr. Read, of Jewin-street; the labour was a natural one, and the trunk of the child perfect in its development. On examining the head, there appeared to be an arrest of development in the frontal, the two parietal, the squamous portion of the temple, and the occipital bones; the situation of the brain was occupied by a growth having all the physical appearances of a large vascular nævus. On a careful dissection of the parts, this vascular protuberance was found to be covered by a membrane similar in its appearance to the dura mater, and continuous with the proper coverings of the spinal cord; the cord itself appeared to terminate at the border of the foramen magnum. The child lived twenty-four hours. Mr. Childs said, that, according to Vogel, the literature of these cases is abundant, in consequence of their frequency; they, in his opinion, forming more than one-third part of all human monstrosities; but this opinion was at variance with the statistics of Mr. Wilde, in his work on Austria. At the Royal Imperial Hospital at Vienna, out of 23,400 births, 88 cases of monstrosity occurred, and only two of the anencephalous variety. Geoffroy St. Hilaire has separated this group into two families—viz., pseudencephali, containing, in the place of the brain, a soft, reddish, vascular protuberance; and anencephali, in which the brain is totally absent, without being replaced, as in the former instance, by a foreign substance. Mr. Childs considered the specimen before the Society was of the pseudencephalic family. In those cases in which no substitute for the brain is found, and where the cord terminates in a simple tubercle, he (Mr. Childs) thought that the theory which accounted for these deficiencies would hold good—viz., that at some period of fœtal life the brain vesicles burst, and the progress of development, as a consequence, is arrested; but where, as in the instance before us, cysts containing brain and fatty matter, together with vascular tissue, occupy the place of the cerebral organs, he (Mr. Childs) thought it not irrational to suppose that the vesicles go on developing themselves in an irregular manner, with a loss of that organic power by which cerebral matter is produced in its normal quantity and relations. A microscopical examination of the tumour is this case displayed blood-corpuscles and fat globules, brain cysts with vascular and cellular tissue. With the arrest of development in the brain, a similar arrest takes place in the cranial vertebræ, but he (Mr. Childs) was informed by Mr. Holmes Coote, whose work on the "Homologes of the Skeleton" was well known and esteemed, that the bodies of the cranial vertebræ are always found, although altered in shape, and coalesced to form irregular masses; the arches of the cranial vertebræ are always imperfect, but the separate cranial pieces may readily be determined. He (Mr. Childs) had made no examination of the nerves of respiration and the special senses, as it would have interfered with the appearance of the head, which he had been desirous of exhibiting to the Society as little injured as possible, but he should feel much pleasure in doing so, and would lay the results before them at a future meeting. Mr. Childs then exhibited to the Society two very beautiful preparations of cranial vertebræ, for which he was indebted to the kindness of Mr. Holmes Coote, who had prepared them for the museum of St. Bartholomew's Hospital; one was the disarticulated skull of a full-grown fœtus, and the other, that of an anencephalous fœtus. The preparations were much admired by the fellows of the Society.

Mr. Smith delivered some particulars of a case of erysipelas spreading over the whole body of an infant six weeks old, and in which recovery took place.

A paper was read by Mr. Edwin Lee on

FUNCTIONAL PARALYSIS.

After alluding to the difficulty of diagnosis between functional and structural paralysis, and also between cases of functional paralysis arising from causes of centric and eccentric origin, the author observes, that a not unfrequent origin of hemiplegia or partial paralysis, which have been considered as depending upon congestion, effusion, or structural change in the brain or spinal cord, is a deficiency of due cerebral excitation, either from an imperfect supply of arterial blood to the brain, from causes of an exhausting or depressing nature, mental or otherwise, by which the faculty of volition is directly affected, and, in some instances, from original or long-continued inactivity of parts, in consequence of which the conducting powers of the nerves are impaired. As illustrations of these local paralyses, Mr. Lee cited dumbness in cases of congenital deafness, the slowness of speech in idiots, the destruction of life by what is termed nervous apoplexy, as an example of the highest degree of exhaustion or deficiency of nervous power, no pathological change being found at the autopsy, the utter absence of structural disease in numerous cases of paralysis, as ascertained by M. Lebert, physician to the Bicêtre, and the occurrence of death, or of a privation of power in particular parts, from mental emotions, such as joy, fright, &c.—parts which, though employed in the performance of ordinary actions, or whose actions are more complicated, and require greater exertion of volition for their healthy performance, are necessarily more liable to be affected by whatever impairs the integrity of the faculty than those which are directly controlled by the will, and have a more simple office. Thus the muscles of the larynx, pharynx, of the bladder, and the sphincter ani, are more subject to loss of power from mental emotion, as in the instance of temporary privation of speech, and inability to retain the alvine contents, &c., from fear, than are the flexors and extensors of the extremities. In states of nervous weakness, or paresis, from whatever cause, flexion and extension of the limbs are much more easily performed than rotation inwards or outwards; the inferior extremities are more frequently affected than the superior, whereas the muscles of the tongue and of the face, deriving their nerves directly, and without any long *trajet*, from the central organ, are affected only in extreme cases, as regards their more simple movements. The symptoms may, however, be determined to particular parts by injuries or other local causes; these are exceptions, however. These complaints are often intractable, and but little relieved by ordinary remedies, in consequence of their peculiar nature and causes not being in general sufficiently considered. Where the remedial means are chiefly directed against the mere symptom of loss of power, they will mostly fail. The patient's attention being concentrated upon the complaint, it is very often kept up by habit alone for months or years, till some circumstance or other occurs to break the chain, by exciting the faculty of volition to action. To such a change, the author referred the supposed curative power of charlatans and miracle-mongers, and, in illustration, cited the case of a young female, paraplegic for years, who was cured of her disease by immersion in the Ouse, under the superintendence of a clergyman. This, like many similar cases, the author observed, had, in all probability, been treated in a mere routine manner, and may suffice to indicate that these complaints, especially when of long duration, are more likely to be remedied by circumstances which divert the patient's attention from their consideration by mental agencies, tending to excite the torpid volition, or by any means in which the patient can be induced to have confidence; the apprehension of a painful or disagreeable application, or of the actual cautery, or of blisters, has sometimes a beneficial effect; whereas, the excessive sympathy of relatives and friends, the too minute attention on the part of the practitioner to particular symptoms, and a purely pharmaceutical mode of treatment, will invariably tend to retard recovery.

Dr. **Forbes Winslow** objected to the term functional, according to the signification attached to it by the author of the paper. If the word function implied a certain action, condition, or state of vitality of parts consequent upon a particular arrangement or combination of organic tissues, then he (Dr. Winslow) maintained that it was both physiologically and pathologically incorrect to assert that the function, in the *abstract*, admitted of disease or disorder apart from any change, alteration, or modification of the particular tissues which gave active development to the special vital manifestation implicated. He could not conceive how any function could be disordered *per se:* it must, in obedience to recognised physiological laws, be invariably the immediate consequence or effect of an altered physical condition of organic matter. This doctrine was especially applicable to the disease under consideration.—He (Dr. Winslow) thought that every action of the nervous fibre or tissue was associated with, or the immediate result of, a molecular change in the part. Such was the particular condition of the *motor* nerve, when volition was transmitted from the sensorium to a distant portion of the body, and of the nerve of sensation, when impressions were conveyed from remote parts of the frame to the great nervous centre. He (Dr. Winslow) argued that there existed a healthy or normal function of a nerve, to which physiologists applied the name "molecular;" and that any deviation from the natural healthy or normal function of the nerve must be either the direct effect of, or be invariably associated with, an abnormal condition of the molecular action. In paralysis, however trifling in its character, he thought there was always some deviation from the healthy and normal condition of some portion of the nervous tissue. This deviation or change often escaped the most minute microscopic examination. Changes often took place in the delicate structure of the vesicular matter—particularly of the nucleated nerve-vesicles, which set at defiance the careful scrutiny of the pathologist. Paralysis often depended upon a minute alteration in the arrangement of the nervous fibres—a slight effusion in the sheath of the nerve, or an affection of the nervous pith, or congestion of the delicate tissue of the nerve-tube, or vesicle, or cell. Again: paralysis, and other affections termed nervous, might be the result of some modification of the *vis nervosa* itself. The "nervous fluid," or "energy," or "force," as it was variously designated by physiologists, we had every reason to believe to be a blood product. Any altered condition of the blood, any important change in its vital properties, would, as a matter of course, modify, and materially alter the nature and condition of the nervous fluid itself, admitting it to be a secretion from the blood. A large quantity of blood was sent to the vesicular portion of the brain, where we had every reason to believe the nervous force to be generated.—May not paralysis and other disorders of the nervous system be connected with a modification or unhealthy condition of the nervous energy itself, consequent upon a vitiated state of the blood? Poison circulating in the blood, like that of lead, would derange the action of the nerves, and give rise to paralysis The nerves themselves were susceptible of organic change, such as atrophy and hypertrophy. In long-persistent sciatica, and in neuralgic affections of other nerves, an atrophied condition was occasionally detected after death. He (Dr. Winslow) argued that we were not justified in asserting that no pathological or organic change had taken place in certain nerves, whose functions were greatly disordered, unless the most minute examination was made into the weight of the brain, its alterations in colour (often the only indication of organic mischief,) or chemical and anatomical character of the different nervous tissues. He (Dr. Winslow) had no doubt that the modification or change in the nervous matter, unappreciable to the naked eye or the microscope, indicated by what is called "functional" disturbance of the nervous system, was frequently owing to some altered state of the chemical constituents of the nerve-fibre or vesicle. He instanced the effect of the presence or absence of phosphorus in the brain, asserting that in early life it existed in its minimum extent; in the middle period of life, when great activity of mind was exhibited, it was found in larger quantities; and in old age and idiocy, the smallest portion was detected in the cerebral matter. In states of great mental depression, he (Dr. Winslow) thought the normal proportion of phosphorus was lessened. The pathology of the brain, in cases of paralysis, was involved in considerable obscurity. Physiologists had succeeded in establishing, by means of experiments and careful pathological inquiry, the special function of certain portions of the brain. It was generally admitted that no effusion or extravasation could take place either in the *corpora striata* or *thalami* without the immediate effect being paralysis. In considering the subject under discussion, it was important to diagnose successfully between *cerebral* paralysis and *spinal* paralysis, and those affections of the afferent and efferent systems of nerve which commence in the periphery of the nerves themselves, and are termed circumferential. In forming a diagnosis, it was most important to keep in recollection certain important and well-established physiological axioms. To Dr. Marshall Hall the profession was greatly indebted This distinguished physiologist, after careful and patient investigation, had established, that in cerebral paralysis, when the influence of the brain is removed, there is always to be found augmented irritability, with increased tonicity of the muscular fibre, emotional influence remaining nearly intact. In spinal paralysis the influence of the brain, as well as the spinal marrow, is removed. Under these circumstances there is diminished irritability, as well as a diminution of muscular tonicity. In paralysis commencing in the remote expansion of the nerves, often extending to the brain itself, it was generally discovered that sensation was more affected than motion. By keeping these important physiological truths in mind, and connecting them with the early history of cases of paralysis, the physician would, even in cases apparently obscure, find little difficulty in forming a successful diagnosis between those lesions of motion and sensation which respectively have their origin in the brain, spinal marrow, or in the periphery of the nerves. He (Dr. Winslow) directed the attention of the Society to a form of mental disease which had not sufficiently attracted the attention of the physician. He alluded to a morbid condition of mind connected with a sudden loss of all power over the train of thought. This state was distinct from insanity, there being no aberration of idea, and it was also, in its pathological character, different from dementia, or that loss of mental power generally connected with softening of the brain. He termed it mental paralysis. Without any apparent cause, or the existence of precursory symptoms. the patient, whilst engaged in conversation, suddenly has his ideas completely paralyzed. This was generally temporary in its duration. He (Dr. Winslow) thought it associated with an anæmic condition of the brain, and a non-fibrinous state of the blood, and was to be cured by rest, and the exhibition of mineral and metallic tonics. The speaker made some remarks in conclusion on the necessity of using with extreme caution depleting remedies in cases of paralysis, and considered that most forms of cerebral disease, particularly those connected with mental derangement and paralysis, were combined with an exhausted condition of the nervous and vital energies.

A discussion of some length ensued, in which several fellows took part. The question which arose had reference to the propriety of the term functional paralysis, and whether there could be any functional derangement without absolute change in the organ implicated. It was contended, in relation to the first point, that there could not be, strictly speaking, such disorder of formation as would produce paralysis without organic change; and it was contended that examination might fail to detect the change in structure, but that this was no proof that it did not exist; on the other side it was argued, that cases certainly did occur in which paralysis supervened on functional disorder, without any organic change, and cases were related in point where paralysis existed, and a minute microscopical examination failed to detect any change in the organic tissues; it was fair to assume that no change did exist; carrying the hypothesis beyond this point was dangerous to legitimate inquiry. On the second point, it was contended that all functional change, and by some speakers, even the healthy exercise of a function, was always accompanied by organic change, and even *destruction* of the parts implicated; others argued that the change was merely dependent on the condition of the circulation through the organ engaged. To these it was answered that, assuming the argument to be correct, the body was at the best a diseased machine, and there could be no such thing as a healthy action.

Dr. Ogier Ward related a case of

CONVULSIVE COUGH IN AN INFANT ELEVEN MONTHS OLD, TERMINATING FATALLY.

The case was at first regarded as the whooping-cough, more especially as an elder brother was similarly affected. The treatment consisted in lancing the red and tumid gums, the application of one leech to the head to relieve the congestion, and afterwards, there being but little congestion of the lungs, the ferri. ammon. tart. with the hydriod. potassæ, and a stimulating liniment to the chest, as pulmonary tuberculosis was dreaded. The leech-bite bled freely, and the infant was greatly blanched by the loss of blood. The convulsive character of the cough, as well as the absence of the whoop, then led to the suspicion that there was some affection of the brain modifying the cough: this view was strengthened by the prominence and hardness of the fontanelles, and by a slight convulsive action of the eyes after a fit of coughing. As depletion could not be pushed farther, hyd. c. cretâ and salines were accordingly given. From this time each paroxysm of coughing was attended or followed by a convulsive spasm, in which the limbs were stretched, the hands clenched with the thumbs inside, the head turned to one side, and the eyes distorted. Complete opisthotonos and trismus occurred two days before death.

Post-mortem examination, thirty-two hours afterwards.—Fontanelle sunk; body emaciated; brain not congested, nor was there any fluid under the arachnoid at the upper part; on the contrary, the brain was dry; ventricles distended with serum, and the brain around softened almost to diffluence, but in no part was it redder than usual. The membranes at the base of the brain and the choroid plexus were thickened with crude tubercular matter quite recent, and studded over with miliary tubercles. Lungs filled in every part with miliary tubercles, and a large patch of crude tubercle on the pleura of the middle lobe of right lung. Upper and middle lobes emphysematous to an extreme degree, the air-vesicles being distended, as well as the interlobular areolar tissue. Spleen full of tubercles of various sizes, and in different stages of growth. Mesenteric glands universally converted into tubercle, but all in the crude stage, though varying in size from a pea to a large nut. The rest of the viscera were healthy. The points that appear most worthy of notice in this case are, first, the fact of tuberculosis being set up in an unweaned child from a temporary indisposition of the mother. Next, the influence of teething in determining the tuberculosis to the cerebral membranes, and the convulsive character thus impressed upon the cough, so as to completely assimilate it to pertussis, except in the omission of the whoop; thus proving by analogy the influence of the brain in the production of that disease. Thirdly, the effect of the softening of the brain, and the tubercular inflammation of the membranes at its base, especially the latter, in causing the tetanic spasms of opisthotonos and trismus. Fourthly, the peculiarity of the respiration in this and other cerebral affections, characterized by its irregularity, though with a certain rhythm, a long inspiration being followed by several short inspirations and expirations, and terminating in a long expiration. Lastly, in the disproval this case affords of the incompatibility of emphysema with tuberculosis of the lungs.

A paper was read by Dr. R. Mortimer Glover, on

THE PHYSIOLOGICAL PROPERTIES OF PICROTOXINE.

The author commenced by detailing seven experiments, the animals experimented on, being dogs, a she-ass, a pigeon, a frog, a rabbit, and a gold-fish. The results in each experiment, and the post-mortem appearances, were alike—namely, retrograde movements, shown in a slight degree by convulsive twitches of the eye, head, neck, and shoulders, backwards, and, in an extreme degree, by a regular forced retrogression, salivation, and general tremors, bloody stools, laborious breathing, rapid action of the heart, and opisthotonos. The autopsies revealed total extinction of the muscular irritability, with great heat of the muscular fibres, the thermometer rising to 115 degrees; irritability of the heart, more so of the auricles than of the ventricles, both cavities being distended with black fluid blood; the lungs slightly congested: the stomach and intestines showing marks of irritation; great congestion of the brain and its membrane, especially the lower portions, the cerebellum, corpora quadrigemina, and upper part of the spinal cord, with much bloody serum in the ventricles. The dose of picrotoxine given to the dogs varied from one to two scruples; to the ass, 100 grains; to the pigeon, four grains; to the frog, five grains; and to the rabbit, ten grains; five grains were placed in the water containing the gold-fish, but the picrotoxine is very insoluble in water. In all these experiments it was either given by the mouth, or inserted under the skin of the axilla or groin. The author next proceeded to compare the results of his experiments with those made by M. Flourens in the removal of various parts of the brain, especially of the corpora quadrigemina and cerebellum. The resemblance, he remarked, was very striking. To prove this, a quotation was made from Cuvier's report to the Institute, on Flourens' experiments, and the following conclusions were drawn by the author as the legitimate deductions from the results of his experiments:—1. Picrotoxine has the power of determining peculiar movements and effects very similiar to those described by M. Flourens as resulting from sections of the cerebellum, and perhaps of the corpora quadrigemina. He did not think, however, that the animals in his experiments were blind until just before death, if then, as in the cases where Flourens cut away the corpora quadrigemina. The iris was certainly in some cases contractile, until the symptoms became very severe, when the pupil was enormously dilated. 2. Picrotoxine also acts powerfully on the spinal cord, and generally is a narcotico-acrid poison. 3. It is not one of those active principles, so very energetic, that is to say, in such small doses, like conia, aconitina, &c., although a most terrible poison. 4. The animal temperature was much increased in some of these experiments, forming, in this respect, a great contrast with some facts Dr. Glover observed several years ago, showing the great diminution of temperature undergone by animals slowly poisoned by the chloride and bromide of olefiant gas, chloroform, bromoform, &c. How far the increase of temperature was owing to the excitement of the nervous system, he would not decide. The peculiar movements caused by picrotoxine, Dr. Glover thought, were neither reflex nor voluntary, but should be considered a third kind of motion; and he stated, with respect to the *cui bono* of his experiments, that it is our duty to investigate, often without a direct reference to that in the first instance. Everything that is true generally finds some useful direction. When he, some years ago, called attention to the remarkable physiological properties of chloroform, then scarcely known, who would have supposed it likely to be in such general use?

The discussion which ensued had reference chiefly to the exact nature of the substance denominated by the author, "picrotoxine." In the absence of any definite account of its nature and constituents, it was contended that the experiments were by no means so satisfactory as they would otherwise have been. It was argued, however, on the other side, that the experiments were on every occasion so uniform in respect to their results, that it was clear they must be regarded in the light of valuable additions to our knowledge, though Dr. Glover had omitted to give a detailed account of the substance with which he had experimented. He had stated also to the secretary, Dr. Cogswell, that the picrotoxine was prepared by Mr. Morson, a sufficient guarantee of its purity. The discussion afterwards had reference chiefly to the specific effects of poison, as evidenced by the experiments, but no speaker had had any personal experience in the matter. Towards the close of the debate, the President, in allusion to the very great increase of nervous diseases of late years, in England, inquired whether the circumstance might in any way be explained by the fact of the staple beverage, beer, being much adulterated by cocculus Indicus, the plant whence picrotoxine was obtained? Some cautions, also, were given by one or two fellows, respecting the use of tincture of aconite, a preparation at present having no place in our pharmacopœia, as in some instances it acted with very much more energy than in others.

Saturday, Jan. 4, 1851.

BONE AFTER AMPUTATION.

Mr. **Gay** exhibited a ring of bone which was exfoliated from the end of a stump three months after amputation. Mr. Gay remarked that not unfrequently stumps refuse to heal so soon as could be desired; and one or two sinuses, when such is the case, are generally to be found leading down to the bone. Occasionally some osseous debris passes out with the discharge; and the delay of the healing of these sinuses occasions much inconvenience. In two cases lately Mr. Gay had detected necrosed portions of bone; and on removing them (which he has done by incision) he has found them to consist of entire rings. He anticipated the exfoliation by rounding off the edge by sawing, or snipping it off by means of the bone-nippers.

PERFORATION OF THE STOMACH; ULCERATION OF THE EPIPLOIC VEIN; DEATH BY HÆMORRHAGE

Dr. **Routh** exibited a specimen of a man's stomach perforated in the great curvature. The case was that of a man, aged sixty, who had usually enjoyed good health. Some time back he had considerable pain in the stomach, for which he was salivated to an unusual degree; some sloughing, with considerable œdema of the tonsils and larynx, resulted from this treatment. Dr. Routh did not see him till about ten days after. The symptoms were those of gastrodynia, with considerable weakness. There had been slight hæmoptysis; but, the lungs being sound, the hæmorrhage was attributed to the throat complaint. This on examination was found to be reddened, with some tenderness over the larynx and difficulty of swallowing. The abdomen was soft, and there was tenderness over the stomach. Bowels much constipated. He was ordered a soothing laxative, a draught with prussic acid and gentian, a blister to the stomach, and a gargle. Under this treatment he gradually improved, the gastric pain almost entirely disappearing. The throat symptoms were very much diminished, two leeches having been applied to the laryngeal region, and a blister on the nape of the neck. He continued under treatment for about three weeks, and appeared to improve when, on Wednesday last, he was seized with a fit, and died in about twelve hours. Dr. Taylor assisted at the post-mortem, thirty-six hours after death. Lungs healthy; apex of left lung containing a small dark cretaceous plate. Heart small and flabby; one of the tricuspid valves somewhat thickened; the right auricle exceedingly thickened; the other valves healthy. Liver large, with fatty degeneration. Kidneys with cysts and fatty degeneration. Intestines of rather a dark colour. The stomach was full, and contained about three quarts of blood, partly liquid and partly in clots; about the centre of the greater curvature was a large hole, through which the index finger could be passed downwards into a large mass, involving the diseased mesenteric glands and a portion of the pancreas. There appeared to have been some ulceration or an abscess in this mass, which, in bursting into the stomach, had involved the gastro-epiploic vein, and thus caused death by hæmorrhage.

CASES OF INTERNAL STRANGULATION.

Mr. **Hancock** related a case of internal strangulation, which presented the usual symptoms of constipation, vomiting, swelling of the abdomen, &c. He was requested to see the case by Mr. Brown, of Lewisham, who agreed with him as to the propriety of performing an exploring operation for the relief of the internal constriction, whatever that might be. Upon very careful examination, Mr. Brown directed attention to a spot on the right side, about three inches above Poupart's ligament, which presented an unusual feeling to the touch, and, as no unusual signs presented elsewhere, it was decided to operate in that situation. Accordingly, Mr. Hancock carried an incision from rather more than an inch above the anterior superior spinous process of the ilium towards the rectus abdominis muscle, ending above the external abdominal ring. After dividing the layer of muscles and fascia transversalis, the peritonæum was found to bulge. This was laid open, exposing a knuckle of congested and constricted intestine, but the constriction could not be detected until the gut had been drawn down for about two inches, when the band, which was exceedingly tough, was divided. The patient, however, only existed a short time after the operation. No other band or adhesion was found after death. In another case to which Mr. Hancock had been called, but in which the patient refused to submit to an operation, the cause of constriction was found to exist in the appendix vermiformis adhering by its apex to the cæcum, and a portion of the ileum protruding through the ring thus formed. Although these cases had terminated fatally, Mr. Hancock submitted them to the Society, as he was in hopes, that if the several cases of internal strangulation occurring in the practice of individuals were recorded, the attention of the profession would be directed to the propriety of more early surgical interference than what usually obtains, and patients be thus afforded a better chance of recovery. At the same time he acknowledged that the diagnosis in these cases was frequently very obscure, the symptoms being of an unsatisfactory and negative character.

We regret that our space prevents us from giving the debate on Mr. Hancock's paper *in extenso.* The report forwarded to us, however, embraces most of the points, and refers to many of the facts which have been advanced on other occasions when the subject of internal strangulation has been discussed, and the debates reported in THE LANCET. It is clear, however, from the statements made by the various speakers, that as yet our diagnosis of internal strangulation is not of such a precise character as to enable us to distinguish satisfactorily, in all instances, the nature of the obstruction. It would appear, from what was stated on this occasion, that the circumstance of the patient having on previous occasions been the subject of obstinate constipation and of inflammatory attacks in the abdomen, would constitute one of the chief grounds for suspecting the presence of strangulation, when aggravated symptoms of obstruction presented themselves. It was not, however, possible to determine the exact nature of the "strangulation." Could we ascertain its seat? Would not the period at which vomiting commenced determine whether the obstruction were in the small or large intestines? Did the influence of the strangulation on the secretion of urine help us in this inquiry? No satisfactory answer could be given to these inquiries. As to the presence of pain, and its locality, to determine the seat of obstruction, it was certain that these could not be relied upon; for cases were related, in which the pain, and that of an acute character, was on one side, whilst the obstruction was on the other. Sometimes, however, as was shown, the seat of pain might be the seat of strangulation. Taken, therefore, as a sign in this particular, it was valueless. Then came this question, most important in every respect—At what period was the surgeon justified in resorting to the knife in cases of supposed strangulation? When did the symptoms warrant such a proceeding? The cases detailed, and those laid before the profession for many years past, had invariably been unsuccessful; and the failure was usually attributed to the delay which had taken place previous to the performance of the operation. The authors of most of the cases had attributed the fatal result to this cause; but where was the surgeon bold enough to lay open the abdomen in the earlier stages of strangulation? It may be assumed, that the result of the discussion on this evening, as on all previous ones, amounted to this—that the operation could only be practised as a *dernier ressort.*

PATHOLOGICAL SOCIETY OF LONDON.

THURSDAY, DEC. 14, 1850.—DR. LATHAM, PRESIDENT.

Mr. PRESCOTT HEWETT presented

TWO SPECIMENS OF ANEURISM OF THE MITRAL VALVE AND A THIRD SPECIMEN,

in which the appearances so exactly resembled this affection that they were at first mistaken for it. In the first preparation, two well-marked aneurismal pouches existed in the anterior flap of the valve; the larger pouch, of the size of a filbert, was situated close to the attachments of the chordæ tendineæ, and formed a projection into the left auricle; the smaller one, situated a little higher up, presented a jagged opening which measured four lines in its greater and two in its lesser diameter. The pouch itself, of a vermiform appearance, and six lines in length, projected also in the left auricle. The internal membrane of the ventricle was perfectly continuous with that lining these pouches, both of which still presented some remnants of coagula. The apices of both aneurisms had been destroyed, having apparently been cut off. In this case, the middle aortic valve presented a large ulcerated opening, the margins of which were covered by long soft vegetations; the other valves were somewhat thickened, as well as the root of the aorta, by atheromatous deposit. In the second preparation, the aneurismal pouches were much smaller, but still well marked—two in number; they were situated in the anterior flap of the mitral valve, nearer to the aortic opening. They were partly covered with the remnants of coagula, and projected slightly into the auricle. The mitral and aortic valves were covered with long and very soft vegetations. In presenting these preparations, Mr. P. Hewett regretted that he had no notes of the history of the cases; having been requested by Dr. Peacock, he had brought them forward, as they were well marked specimens of an affection which was considered as somewhat rare; but he added that, in addition to the cases now before the Society, he had met with four or five others of a similar nature. In the third preparation, the only one of the kind which had fallen under Mr. P. Hewett's notice, the anterior flap of the mitral valve presented, towards the centre of its ventricular surface, an opening of the size of a pea, with perfectly round margins, leading into a cavity, which at first appeared to be that of a small aneurismal pouch projecting into the auricle. On further examination, however, these appearances were found to be produced by a coagulum of blood, which had become adherent to the margin of the opening in the valve, while in the centre of this coagulum there was a small cavity occupying nearly its whole length. One side of the coagulum was easily detached from the opening, and the true nature of the appearance was at once made evident. The mitral valve was otherwise quite healthy. The heart itself was dilated in all its cavities, and its muscular structure, much atrophied, was flaccid, and easily lacerated. This preparation has been taken from an elderly gentleman, who died of acute inflammation of the membranes of the brain, and had never presented any heart symptoms.

Dr. RISDON BENNETT exhibited for Mr. Middleton a specimen of

CARCINOMA OF THE LUNG.

A person, aged 27, had an acute attack of pleurisy, in October, 1847, which yielded readily to treatment. In March, 1848, he was under treatment for secondary symptoms. In April of the following year he had a second severe attack of acute pleurisy, from which he recovered in about five weeks. On December 1st, he was suffering from cough, expectoration, night-sweats, and emaciation; there was dulness on percussion at the upper part of the left lung, and but little air entered that organ. There appeared every indication of solid deposit taking place: this spread downwards so rapidly that, on the 16th January (six weeks afterwards,) it was pronounced to be effusion into the pleura; so perfectly dull now was every part of the left chest. The expectoration soon ceased while taking cod-liver oil. On the 9th of February the diagnosis was supported by a second opinion, and he was treated more actively; the disease, however, remained stationary. His general health improved, but the complete dulness remained, with absence of respiratory murmur. After being five months in bed, on the 7th May he left town, his appetite improved, he gained flesh, and in a short time could walk three or four miles. He returned in August without any alteration in his chest symptoms, but complaining of a tumour, about the size of a walnut, anterior to the left ear, attended with considerable pain; and two smaller ones on the left side of the head; they were of a malignant nature, and quickly increased in size. The pain in them became distressing, preventing sleep; he had two or three attacks of loss of consciousness, and was for a time imbecile. At the beginning of November he was expectorating copiously an offensive matter, which rendered the room almost unbearable, and there was no doubt gangrene had taken place. He died on the 14th.—*Examination:* The right side presented adhesive bands between the surfaces of the pleura, allowing, however, free play to the lung; its upper lobes were emphysematous, but otherwise healthy, the lower one was affected by gangrene; the left lung was connected by firm adhesions to the walls of the chest; the whole lung was solidified, the upper third forming one solid mass of malignant disease, pressing upon all the large bloodvessels, and obliterating the left bronchial tube within an inch and a half of its origin. There was also an enlarged bronchial gland at the bifurcation of the trachea, containing calcareous matter. No fluid was found in the cavity of the pleura.

Mr. Pollock exhibited some specimens, showing

PORTIONS OF CALCULI IMPACTED IN THE URETHRA AFTER THE OPERATION OF LITHOTRITY.

One specimen was from a man, aged sixty-two, admitted into St. George's Hospital, under Mr. Cæsar Hawkins. He had suffered from symptoms of stone in the bladder for two years; his water was occasionally tinged with blood, and the irritability of the bladder considerable at times. He appeared in good health. The stone was readily detected, and was apparently of considerable size. It was crushed by Mr. Cæsar Hawkins without any difficulty, and without much pain, and before the instrument was withdrawn, the fragments were broken down some ten or twelve times. The stone was a very hard one. One fragment was fixed in the eye of the instrument, and gave pain in its passage through the urethra, meeting with some difficulty in its withdrawal at the orifice. He passed several fragments during the few succeeding days. On the evening of the operation he was attacked with severe rigors, followed by profuse sweating. Three days after the operation, he was again attacked by severe rigor and profuse sweating. The catheter was used daily. The urine was alkaline, fœtid, contained much mucus and sand, and was tinged with blood. The bladder was washed out with warm water daily, and many fragments of stone were brought away by this means. A succession of severe rigors, and profuse perspirations, returned daily till the sixth day, when the irritative fever was considerable. On the seventh day he was better. Subsequently the urine was again dark, alkaline, and passed with much straining. The quantity of blood in the water increased. He died on the twelfth day after the operation.

Post-mortem Examination.—Thorax. Evidence of slight recent pleurisy on left side; the surface of lung dotted with specks of congestion, in many of which were small spots of lymph or pus. The spots of congestion existed generally throughout the structure of the lung. The right lung was gorged with serum, and much congested and softened posteriorly. The heart flabby. The blood chiefly fluid.—Abdomen: The kidneys were flabby in texture and contained a number of small cysts throughout their entire substance, and in both patches of congestion, in the centre of which were specks of lymph and pus. The bladder much contracted and thickened, its lining membrane thrown into irregular folds, which were slightly coated with phosphate of lime; the mucous membrane greatly inflamed, and that lining the membranous portion of the urethra sloughy and shreddy; small ulcerated openings passed a little way into the surrounding cellular tissue; the bladder contained numerous fragments of calculi.—There were also several small pieces in the membranous portion of the urethra. The prostatic veins were inflamed, and blocked up with coagula; the prostate was much enlarged.

The second specimen was from a man, aged thirty-three, admitted under Mr. Cutler, with all the symptoms of stone in the bladder, and for which he underwent the operation. At the first operation it was broken several times, nor did any disturbance follow. The fragments were again broken down, twelve days after the first operation. This time a slight rigor followed the withdrawal of the instrument, and soon afterwards a piece of stone became lodged in the urethra, in front of the scrotum, which was cut down upon, and removed. A fortnight after the second operation, the fragments were again crushed; several portions were extracted at the time, and much followed through the catheter. Considerable irritative fever followed, with rigors and profuse perspirations; and he died about three weeks after the last operation.

Examination.—Left pleura filled with yellow serum mixed with much lymph; left lung much congested, and contained several abscesses; recent pleurisy on right side; right lung inflamed, and contained several abscesses; blood generally fluid.—Abdomen: Liver natural; kidneys rather large; the veins surrounding the bladder, prostate and rectum, congested, and many of them filled with pus; a foul abscess in the perinæum communicating with the urethra at the membranous portion, through several openings. The bladder contracted. The mucous lining dark-coloured; some fragments of calculi in the bladder. The membranous portion of the urethra was ulcerated, and communicated with the abscess in the perinæum. About three inches and a half beyond this ulceration another lacerated opening existed in the urethra at its lower part, which communicated externally. This had been made during life, to extract the fragment of stone.

Mr. Pollock alluded to a third case, in many respects similar to the two preceding ones, in which a man underwent the operation of lithotrity two or three times, and subsequently died, having suffered from great irritation and constitutional disturbance, following the last operation. On examination, a large portion of stone was found fixed in the membranous portion of the urethra, having partly worked its way out through the floor of the urethra, where a large opening existed, communicating with a foul abscess external to the urethra.

The cases presented to the Society were specimens of one of the accidents attendant upon the operation of lithotrity, and deserved attention, as results of an accident which fortunately did but rarely prove fatal. If the specimens were evidence of any one point in common, they were that of the tendency that occurred, after this operation, for fragments of calculi to become lodged in the urethra, after the crushing of the stone in the bladder. The case exhibited by Mr. Henry Charles Johnson was evidence of this fact; but in this case the occurrence was not attended by unfavourable symptoms, nor did it apparently add to any of the causes of death. The urethra, in this case, had been most amply dilated, and had not been apparently lacerated by endeavouring to withdraw the lithotrite, loaded with fragments of calculi. In the other specimens exhibited, the fragments had most probably lodged in some lacerations of the urethra, and had then set up the mischief which was found after death. In this operation, every precaution should be taken to avoid injuring the urethra when the lithotrite is withdrawn from the bladder. With every precaution, however, this accident cannot always be avoided, as when a piece of stone is fixed in the eye of the instrument, and cannot be removed until the instrument is withdrawn. The stoppage of a fragment of stone is not an uncommon event after the operation of lithotrity; but the danger occurs, first from the stoppage taking place, in consequence of a laceration of the urethra; and secondly, when the stone, not being detected, remains in the urethra. When the stoppage of a portion of stone is detected, it may be either taken away, or pushed back into the bladder, or else removed by an incision. The removal of the impacted portions by incision, in either of the cases related by Mr. Pollock, would have availed nothing. The operation was proposed, but not performed, as the patients were evidently dying from the effects of absorption of pus.

Mr. Henry Charles Johnson exhibited the preparation of a bladder removed from a man, aged seventy-two, who had undergone the operation of lithotrity more than once; with the organ was connected a large sac at its upper part, filled with small calculi. About three years previous to his death (having suffered many years from symptoms of stone in the bladder) he underwent the operation of lithotrity in St. George's Hospital, and left the hospital apparently well; prior to the operation the urethra was gradually dilated till it would allow the passage of a bougie, of the size of No. 20. About two years after he quitted the hospital, the former symptoms of stone returned and became troublesome; the urine alkaline, and filled with ropy mucus, and being passed constantly; the health much shattered, and the pain preventing sleep at night. He was again admitted into the hospital, and under treatment he somewhat improved, so that the operation of lithotrity was again performed, and several small calculi were broken up. For a fortnight after the operation everything went on well, and numerous fragments and sand were daily passed. A month after the operation he suffered more pain in passing the fragments, and the urine was more ammoniacal and ropy; his tongue became dry; and he gradually sank and died about six weeks after the last operation.

Post-mortem Examination.—The kidneys were embedded in much fat; their surfaces dark, and dotted with points of lymph and pus, the right one being in the most advanced stage of inflammation with more evidence of pus mixed with the lymph. In its substance was a small abscess filled with pus. The mucous membrane of both pelves was almost black, and covered with blood secretion. The ureters were dilated, and their lining membrane was in the same condition of congestion and inflammation. The bladder was filled with bloody urine, and much corrugated internally; the muscular coats were hypertrophied. The mucous membrane was inflamed; above and to the right of the bladder was a small pouch, which communicated with its cavity by a contracted opening, and which was filled with calculi of a triangular shape and soft consistence, formed chiefly of the phosphates. The bladder itself contained some fragments of calculi. The prostate gland was much enlarged. Some fragments of calculi were found impacted in the membranous portion of the urethra. There was no suppuration external to the urethra.

In this specimen Mr. Johnson called the attention of the Society to the circumstance of the impacted portion of stone in the urethra—an accident of frequent occurrence, and which required an incision in the perinæum for its relief, but in this instance would have been of no avail, as the patient died from abscess in the kidneys, and did not present the ordinary symptoms of impaction in the urethra.

Mr. Charles Hawkins begged to make a few observations on the very interesting preparations before the Society. He was anxious to do so, because they illustrated a very important point of practice with regard to the operation of lithotrity. He considered them as the result of the *accidents* of the operation, but not as a common result. It had fallen to his lot to see the operation of lithotrity performed in private practice several hundred times, and in the course of his experience he had only seen the accident occur four times; in two, the fatal result (as shown by the preparations now before the Society) had been averted by timely cutting down on, and removing, the impacted stone, and by thus making an external opening into the urethra, avoiding all the unfortunate results of a piece of stone lodging in a lacerated portion of that canal, such as infiltration of urine and abscess, certain results of such an accident, if no external opening be made, and the piece of stone remain in the urethra. But he believed this accident might be entirely avoided, if the operation of crushing be performed with the lithotrite—that is, if the operator is satisfied with crushing the stone, and not attempting to withdraw the fragments between the beaks of the instrument. He believed this accident never occurred except where the urethra had been lacerated with a piece of stone during the withdrawal of the instrument, then impaction of a fragment led to the results which the preparations exhibited; but where the urethra has not been lacerated, impaction is of little importance, and no dangerous symptoms are likely to result from such an occurrence; at least, this was the result of his experience. Since no attempts have been made to remove fragments from the bladder in the instrument, he had met with no such accident. Impaction, when the urethra is not lacerated, does occasionally occur, but with care all danger may be avoided; he had removed as much as half a wine-glass-full of detritus, by means of a small silver scoop, without any difficulty, in a late case under his care: he had been obliged to remove a large portion of the stone by this means; indeed, so easy was it, that this patient used the instrument himself in the same manner. He believed that the result shown by the preparations was merely the result of the urethra having been lacerated, and calculi becoming impacted in such rents, and not that the laceration of the urethra was caused by the stone becoming impacted: he had never seen any danger arise from impaction, where there had been no bleeding from the urethra following the operation; as far as his experience went, it was not necessary to attempt the removal of stone in the scoop lithotrite. If the stone *is well crushed*, it may be left to nature for the bladder to be evacuated of the fragments, or where there is a difficulty in passing them he had removed much by means of washing out the bladder. This accident had never occurred in his own hands: abscess will form in the neighbourhood of the bladder after lithotrity, when there has been no impaction, nor laceration, nor the least injury to the bladder or urethra. Mr. Pollock had assisted him to make a post-mortem examination of a most interesting case of this nature where a large abscess had formed between the bladder and rectum, where there *was not the slightest* injury to the urinary apparatus, where all the stone had been removed, and where the patient was convalescent, but where the cause of death appeared to have depended on that state of heart so well described by Dr. Quain, the patient dying instantaneously on making some sudden exertion just after his dinner.

Mr. Solly exhibited a specimen of

CANCER OF THE PROSTATE GLAND,

from a child three years of age, who first complained of pain at the lower part of the stomach and a difficulty in making water, about three months ago, and occasionally since, but playing about during the intervals of pain, without apparent suffering. On the 13th November Mr. Solly passed a small catheter into the urethra, but met some obstruction about the bulb, and again at the neck of the bladder, and could not introduce it fairly into the bladder, to draw off any water. A warm bath and an opiate were ordered. By the rectum, the bladder appeared to be contracted, and was concluded to be empty. On the 14th Mr. Solly was again foiled. On the 15th he succeeded in introducing a very small catheter, and drew off nearly a pint and a half of urine. The instrument entered the bladder with great difficulty, and was very tightly grasped. The boy suffered much while it was in the bladder, so much so that it was withdrawn. On the 16th it passed with less difficulty, and, not producing irritation, was retained in the bladder till the 18th, when it was removed, and now a grating sensation was felt, such as might be communicated by a stone, but it did not strike nor move anything. On the 19th he had passed urine freely; the catheter was again introduced, but did not satisfy Mr. Solly of the presence of stone. Having touched something like a stone in passing the instrument through the neck of the bladder on the 21st, an experienced hospital surgeon was asked to introduce the catheter, and he upon examination expressed his conviction of the presence of a stone. On the 23rd Mr. Green sounded the boy, and stated that he could not positively feel a stone, though something very like one, but not sufficient to justify an operation. The boy died the next day with symptoms of peritonitis.

Post-mortem Examination.—Turbid serum effused with flakes of lymph in the cavity of the abdomen. The peritonæum inflamed. Bladder contained about an ounce of urine. In the situation of the prostate gland there was a lobulated firm tumour about the size of a hen's egg, through which the urethra could be traced. The tumour presented a cream colour on section and a lobulated condition, with a fibrous tissue surrounding the lobules, giving it a gristly feel. Mr. Rainey examined it under the microscope, and found that it contained innumerable cells.

Mr. **Stafford** has related a similar case in the 22nd volume of the *Medico-Chirurgical Transactions*. The child was five years old; the tumour equal in size to the largest walnut, and consisting of encephaloid and melanotic matter.

Mr. **Stanley** exhibited a specimen of

RUPTURE OF THE ENDOCARDIUM OF BOTH AURICLES OF THE HEART, AND THE PERICARDIUM OF THE LEFT AURICLE, THE CONSEQUENCE OF VIOLENCE.

A man, aged thirty-eight, was brought to St. Bartholomew's Hospital with compound fracture of his leg, which had happened an hour previously. Whilst standing directly under a plate of iron weighing eight cwt., he heard the snap of a bolt, and instantly threw himself backwards, and fell with considerable force on the ground. The plate of iron dropped on his left leg, which was resting on another mass of iron behind it. Thus the limb was smashed between the masses of iron, producing a compound fracture of both bones of the leg, with extensive laceration of the muscles. On the following day the limb was amputated above the knee. The shock of the accident and of the operation did not appear to make a serious impression on the system; accordingly the progress of the case was favourable to the fifth day, when inflammation ensued extensively through the cellular tissue of the thigh, accompanied by depression of the vital powers. As he continued to take plenty of nourishing food, with a moderate quantity of brandy, his recovery was not considered hopeless, but on the morning of the twelfth day he suddenly became pale and exhausted, and shortly afterwards died. Throughout, the predominant character of his pulse was that of feebleness and frequency. During the last few days of life, the breathing was oppressed.

Post-mortem Examination.—On opening the pericardium, a clot of blood, about the size of a half-crown, was found loose in its sac; a smaller clot was found lying upon the auricles; several small effusions of blood were observed between the pericardial covering and muscular substance of the auricles and ventricles, more especially of the former. In the posterior part of the right auricle, between the fossa ovalis and inferior vena cava, a rent, about an inch and a half in length, was discovered in the endocardial membrane of the auricle. In the posterior part of the left auricle, between the pulmonary veins, similar rents were discovered in the pericardial and endocardial membranes. The muscular parietes of each auricle were entire, except at one point in the left auricle, where, in the line of the rent through the pericardial and endocardial membranes, a small aperture was discovered between the muscular fibres, through which it appeared that blood had passed from the auricle into the sac of the pericardium. The lungs contained much serous fluid.

Dr. **Quain** presented, from Mr. James Holt, a specimen of

LARGE EXOSTOSIS FROM THE LOWER POSTERIOR ANGLE OF THE RIGHT PARIETAL BONE.

In the dried state, the exostosis measures in length three inches on its anterior, and two inches and a half on its posterior aspect; and at its base, (being conical in shape,) two inches and a half in diameter; at its apex, little more than half an inch. It is slightly constricted at its middle. The surface resembles the texture of the outer table of the skull. The apex is covered with a thin, hard, black layer, being a portion of bone in a state of exfoliation. The internal surface of the skull corresponding to the tumour is natural; a vertical section of the tumour shows its connexion to the parietal bone by a pedicle about three-quarters of an inch in diameter, the remaining portion of the base being separated by a narrow interval from the outer surface of the skull. It resembles a pine-cone or conical mushroom, fixed by its stem, which latter resembles the tissue of the outer table of the skull. The remaining portion of the exostosis is cellular in texture. The structure of the tumour presents the characters of true bone. The specimen was taken from a man aged forty. The tumour commenced about twenty-six years before death, and was ascribed to a blow. Several metropolitan surgeons had seen the case, but declined to interfere with it. When seen by Mr. Holt, he was suffering from disease of the liver and kidneys, of which he shortly afterwards died. An examination showed a granular condition of the liver and softening of both kidneys, which always contained several small abscesses. The mode of attachment of this large tumour by so comparatively small a base suggested a point of much practical interest—viz., that if the nature of this connexion could have been ascertained during life, it might probably have been removed with safety.

Mr. **Coulson** exhibited a

PORTION OF THE ABDOMINAL PARIETES,

from a married woman, aged fifty-six, who had been tapped eighteen months before for ovarian dropsy. The wound from the trocar never healed, but presented a red, puckered, mammillated projection, and increased to the size of a crown-piece. The integument in its vicinity soon began to thicken, and presented a nodulated appearance, leaving no doubt of its malignant character. The dropsical enlargement did not return. About a month before death she complained of great pain in the region of the wound, and fæcal matter was observed to ooze from it. Vomiting also came on at this time, and was somewhat mitigated by large doses of opium.

Post-mortem Examination.—A cyst, sufficient to contain a large orange, was found internal to the opening into the abdomen. It was lined by a smooth membrane, and internally composed of a dense (almost fibrous) tissue; how the sac was formed it is difficult to say. The small intestines were situated round the cyst, and at one portion of the ileum, was agglutinated to it. At this point the intestine had ulcerated into the cyst; in the right ovary there was a cyst about the size of a small egg; the left was healthy. No sign of disease was observed elsewhere.

Mr. Coulson thought the preparation interesting, because, first, the wound from the tapping had never healed; secondly, a simple wound in healthy integuments had caused, or was followed by, malignant disease in the part; thirdly, the dropsy had never returned.

Dr. Quain presented a specimen of

ANEURISM OF THE LEFT VENTRICLE OF THE HEART,

in a youth who was brought dead into University College Hospital. The body was examined by Mr. Scriven, who obtained the following history:—The deceased was an errand-boy, fourteen years of age; his health had been good until five months before his death, when he took cold, and complained of pains in his limbs, from which he was never subsequently free. For a month preceding his death he had been observed to be getting thinner; about a week before his death he had complained of palpitation and pain in the region of the heart, and he had a fainting fit, which, with the symptom just named, soon went off. The day before his death, he complained of pain at the epigastrium, which soon discontinued. He did not suffer from dyspnœa; in fact, he followed his occupation, and was not supposed to be ill. At the time of his death he was seen sitting by the side of the road, when suddenly he uttered a cry, and fell on his side, and on being raised up he was pronounced dead.

Post-mortem Examination.—There was nothing particular in the lungs or pleura except a little recent lymph, and serous effusion on the left side. The pericardium occupied a larger space than usual, and was found filled with bloody serum, and a clot of blood which weighed three ounces. There existed an old firm pericardial adhesion at the apex. The hæmorrhage was traced to an orifice in an aneurismal sac, existing at the base of the left ventricle; this sac was shaped somewhat like a thimble; it projected outwards and upwards between the root of the aorta and the left auricular appendage. It was an inch in length, and rather more than two inches and a half in circumference. The orifice which communicated with the ventricle was of an oblong form, being one-fourth of an inch in length, and half this measurement in depth, and it was situated immediately beneath the outer or left segment of the aortic valve. There were two other smaller orifices close to the larger one; each would admit a large pin's head, but there were no distinct projecting sacs. The perforation whence the hæmorrhage had proceeded, and which would admit a small-sized quill, was found at the apex of the tumour; this point had been adherent to the auricular appendage, and to the pericardium. The walls of the sac contained no muscular fibres, but had evidently been formed by the yielding of the fibrous texture, and was composed of a cellulo-fibrous formation covered by the serous pericardium, and lined by a smooth membrane, which could be traced in continuation with the endocardium. The heart was hypertrophied, and weighed nine ounces. There was no disease of its muscular walls. The aortic valves were extensively diseased, being degenerated, broken down, and studded with calcareous particles. There were some white patches on the endocardium of the left ventricle. The mitral valve was thickened at its edge, and there was some calcacerous deposit on it, and on the chordæ tendiæ. The right cavities were free from disease; all the cavities were empty. There was no disease in any other organ. The existence of a well-marked aneurism in so young a subject is a point of considerable interest. The age of the youngest subject of this disease, referred to by Dr. Thurnam, in his excellent essay (*Medico-Chirurgical Transactions*, vol. xxi.,) appears to have been eighteen years. Another point of great interest is the amount of disease which existed in the heart without causing any serious inconvenience to the person in whom it existed.

EPIDEMIOLOGICAL SOCIETY.

The second ordinary meeting of this Society was held at the house of the Royal Medical and Chirurgical Society, 53, Berners-street, on Monday, Jan. 6, Dr. Babington in the chair.

The President announced the names of sixteen gentlemen who wished to be proposed as members of the Society, among whom was Sir John Liddle, of Greenwich Hospital. Donations of books for the library were also announced.

Dr. Bryson read the continuation of his paper on the Infectious Nature of Cholera, alluding briefly to what was read at the previous meeting in December. We shall not this week give an abstract of Dr. Bryson's paper; we may perhaps do so in our next; but as we understand another on the same subject will be read at the next meeting in February, we may think it best to place abstracts of each before our readers, in the same number of our journal.

At the conclusion of Dr. Bryson's paper, Col. Sykes, who had seen much of cholera in India, gave it as his opinion that cholera was infectious, and adduced several facts in support of the views of the paper read by Dr. Bryson.

Dr. M'William and others were of the same opinion. We understand there were several gentlemen present whose views were in opposition to the speakers, but as they had heard that another paper would be brought forward on the same subject in February, they forbore to speak at this meeting.

It was announced that committees were formed for investigating small-pox and vaccination; epidemics occurring in hospitals, lunatic asylums, &c.; and one for the inspection of common lodging-houses, with a view to ascertain if disease be engendered in such localities.

The paper announced to be read at the next ordinary meeting in February is, "The Origin and Progress of Cholera and Small-pox in Guernsey," by S. Elliot Hoskins, M.D., F.R.S.

The meeting was well and respectably attended; we noticed Sir C. M. Clarke and many other gentlemen whom we saw at the previous meeting.

Death of Professor Royer Collard.—Dr. Royer Collard, Professor of Hygiene at the Faculty of Medicine of Paris, a member of the Academy of Medicine, of the Committee of Public Hygiene, and of the Council of Public Health, Officer of the Legion of Honour, &c., has recently departed this life, at the early age of forty-seven, and before he was able to collect, in a complete work, the valuable stores of knowledge which he had acquired, and used to convey with such felicity to his pupils. He was buried, with the most unfeigned marks of regret, on the 17th instant.

Biographical Sketch
OF
DR. SAMUEL MERRIMAN, M.S.A.

The Biographical Sketches which have hitherto been published in the pages of this journal have had reference to those who have distinguished themselves either as "physicians" or "surgeons." The subject of our present sketch is, we believe, the oldest accoucheur alive, and undoubtedly during many years held a very high position in that branch of the profession to which he particularly devoted himself. Looking at the former absurd regulations of the College of Physicians respecting the practitioners in midwifery, one cannot help recollecting that it was this department which was enriched by the genius of William Hunter, and had arrayed under its banner the great practical names of Smellie, Denman, and Gooch. It must be a subject of congratulation to the vast body of accoucheurs in this kingdom to observe that the progress of public opinion is eating away, as it were, the grounds upon which the absurd prejudice rested, which classed the practitioner of midwifery below the "physician" and "surgeon." It is difficult to understand in what way this prejudice first arose; for surely it cannot be denied that the duties of the accoucheur involve some of the most important offices that can devolve on the practitioner of the healing art. Not only does he hold the life of the mother and her offspring in his hands, but he is often called upon to perform some of the most delicate and difficult operations in surgery.

The name of Merriman having been justly celebrated for nearly a century in the annals of midwifery, it is considered advisable to preface this biographical memoir by a few notes upon the first accoucheur of that name. Samuel, the first Dr. Merriman, was born at Marlborough, in Wiltshire, on December 29, 1731. He graduated at Edinburgh, as M.D., in 1753, choosing for his thesis the subject of conception, "De Conceptu," an essay of so much value, that it was thought worthy of being reprinted by William Smellie, S.P.E.S., in the second volume of his "Thesaurus Medicus," a collection of theses for the degree of M.D. at the University of Edinburgh, published in 1779, in four vols. 8vo. The cards of admission to the lectures which Dr. Merriman received from the professors at the University are worthy of being noted, as instances of a simplicity of manners, which has now quite passed away; they are ordinary much used playing-cards, with the name, &c., written on the back. The following are exact copies of some, which were preserved as curiosities:—

"1749, Oct. 18, Anatomy, No. 7th, Samuel Merryman, 85," is the card given by Professor Monro, written on the four of clubs; "College of Institutions of Medicine, R. W., $17\frac{53}{52}$, No. 24, Samuel Merryman," is Dr. Whytt's card, written upon an eight of hearts; and "A Course of Chemistry begun at Edinburgh 14th Nov. 1752, And Plummer, for Samuel Merriman. No. 24," is the card admitting to the Chemical Lectures, written upon the nine of diamonds. The London cards of the same period were more elegant, though very simple. Dr. Merriman's card of admission to the lectures of Dr. William Hunter is a blank card, with an ill-engraved seal in black wax, representing a head, and bears in writing, "No. 62, Anatomy by William Hunter, January 1752," and on reverse, "Mr. Merriman."

Dr. Merriman, senior, first settled as a physician in Bristol, and afterwards removed to Andover, in Hampshire; but finding that a young unknown physician had little chance of success in his profession, he came to London in April, 1757, and commenced practice in Queen-street, May-fair, as an apothecary, (the term "general practitioner" being unknown in those days,) in partnership with Mr. Oakley Halford, who was about to retire from practice. He continued to practice as an apothecary for about twenty years, when he acted on his diploma, and practised only as a physician. The number of labours which Dr. Merriman attended amounts to rather more than 10,000; in one year alone he attended 362. Dr. Merriman, senior, was removed from this world 17th August, 1818, aged eighty-six. On the morning of his decease, his daughter read to him a few passages in the newspaper, which were likely to interest him; he afterwards searched in Watt's Lyric Poems for a passage which he thought applicable to his situation, but in vain; before nine o'clock on the same evening he had ceased to breathe. He died at his son-in-law's house, 26, Half Moon-street, his daughter, Mrs. Merriman, being the sole surviving child of a family of fourteen children.

Samuel Merriman, M.D., the immediate subject of this memoir, was born at Marlborough, 25th October, 1771, and was the only son of an elder brother of the above-mentioned Dr. Merriman, Mr. Benjamin Merriman, a brewer in large business in that town. He was a man of scientific pursuits, and published several pamphlets upon political economy. His wife was a niece of that very upright judge, Sir Michael Foster.

Dr. Merriman received his early education at the Free Grammar School, Marlborough, founded by King Edward 6th, and presided over at that time by the Rev. Joseph Edwards.

On his thirteenth birthday, 1784, he arrived in London, to reside with his uncle, having travelled by the stage coach, which, leaving Newbury, where he had slept, at six in the morning, reached London at five in the afternoon.

For a short time, he went to the school of Mr. Robert Roy, in Old Burlington-street; and he remembers often to have seen, in very fine weather, as he was going to school, Dr. Denman, who lived next door to Mr. Roy, getting on horseback to visit his patients. This mode of visiting patients was likewise frequently adopted by Sir Richard Croft, and by some other physicians.

Under the able tuition and direction of Dr. Merriman, sen., he began his medical studies, obtaining the greatest amount of his professional knowledge from the very sound and extensive medical skill and science of his uncle.

In 1795, he attended the Midwifery Lectures of Dr. Thynne and the Westminster Lying-In Hospital, having previously gone through the usual courses of lectures at the Anatomical Theatre, in Great Windmill-street, by Baillie and Cruikshank; but his clinical knowledge of disease was principally obtained by seeing the numerous patients of his cousin William, son of Dr. Merriman, sen., first in company with him, and subsequently, during his long illness, which proved ultimately fatal, as his friend.

The practice of an apothecary, previously to the present century, was of a nature very different from what it is now. There were then no retail druggists, but every apothecary had his shop, not often open, but always easily accessible. At these shops, the prescriptions of physicians were made up; here casual patients used to apply for advice and assistance; here persons might at any time go and be bled, and, "in the spring and fall," many considered it necessary, according to the instructions of the almanacks, that blood should be taken away from them; and here the minor cases of surgery were attended to, so that every day a number of small fees were received from these casual patients. And this necessarily led to a good deal of better and more lucrative practice.

The practitioners of the present day hold a higher rank, in consequence of their being more highly educated; this is as it should be; at the same time, we cannot avoid contrasting the difficulties they experience in obtaining practice, with the facilities possessed by the apothecaries to whom we have just alluded.

In 1799, Mr. Merriman married his uncle's daughter, Ann, continuing, however, still to reside in his uncle's house in Queen-street, May-fair, and practising as an apothecary—a department he resolved to abandon in 1807, finding that it interfered with his increasing midwifery practice. He therefore entered into partnership with Mr. Peregrine of Half Moon-street, to whom he soon relinquished the general practice.

About this time a vacancy occurred in the office of physician-accoucheur to the Westminster General Dispensary, by the death of Dr. Boys. As the number of persons attended in their labours, from this dispensary, amounted to from 500 to 600 every year, the appointment appeared valuable to Mr. Merriman; but the degree of M. D. was required before he could be elected. Hitherto he had practised upon the right which the membership of the Society of Apothecaries conferred, but it was recommended to him by Dr. William Saunders and Dr. Willan, to apply to Marischal College, Aberdeen, for the honorary diploma granted by that university; and Dr. Vaughan, (afterwards Sir H. Halford Bart.,) Drs. Matthew Baillie, and Andrew Bain, signed a testimonial in his favour. Dr. Merriman, his uncle, gave a separate testimonial; and Dr. Saunders also bore testimony to his abilities. The professors of Marischal College, however, declined to grant a diploma, until they had received a second certificate, from some eminent practitioner, stating that he had *personally* examined the candidate. This difficulty was removed by the kindness of Dr. Vaughan, who undertook the examination; and the degree was accordingly granted, A.D. 1808. The contest at the dispensary, between Dr. Clough, who had a few years previously lost his election by one vote only, and Dr. Merriman, was warm and close, and again ended in the defeat of Dr. Clough, Dr. Merriman gaining the election, principally in consequence of the exertions of Dr. Denman on his behalf. He resigned this appointment in 1815, and was appointed consulting physician-accoucheur, and subsequently vice-president, of the charity. In 1814, the governors, by an unanimous vote, presented to him a handsome silver bread-basket, with a suitable inscription.

In 1808, Dr. Merriman was appointed, by the governors of the poor of St. George's, Hanover-square, to take charge of the midwifery cases in the parish requiring extraordinary assistance—a duty which he performed for nineteen years. In 1809, by the death of Dr. Poignand, vacancies occurred in the office of physician man-midwife to the Middlesex and Westminster Lying-in Hospitals. It had been intended, by Dr. Mayo, physician to the Middlesex Hospital, to propose Dr. Thynne to fill the vacant office; but when Dr. Denham, at the Weekly Board, proposed Dr. Merriman, Dr Thynne declined to present himself. Dr., afterwards Sir Joseph, De Courcy Laffan, then came forward, but soon retired, and was elected to the Westminster Lying-in Hospital. Dr. Roberton then presented himself, pleading that Dr. Merriman was ineligible, because physician-accoucheur to another institution. Upon this objection being started, it was found necessary to call together a special general meeting of the governors; and by a vote of twenty to one, it was resolved—"That as much of the by-laws as relates to the disqualifying the physician man-midwife for belonging to any other charity for sick and lame be suspended." On this Dr Roberton withdrew; and all opposition having subsided, it was found difficult, on the day of election, August 17, 1809, to collect a sufficient number of governors to form a court. The hospital being in the habit of giving to the physician man-midwife five shillings for each case of labor attended, the intention being that one-half should be paid to the midwife, and the other half remain in the hands of the physician, in compensation for his expenses in coach-hire when called to difficult labours, Dr. Merriman, in a manner characteristic of the high and generous spirit which always actuated him in his profession, introduced the plan of giving the whole five shillings to the midwife, or to the patient, if attended by a pupil, the premium being paid on her bringing back the pupil's certificate of his attendance upon her. The plan was found to work exceedingly well, and is, we believe, still continued. Dr. Merriman's yearly reports to the weekly board, on the state of the midwifery department, are given at full length in the valuable history of the hospital, by Erasmus Wilson, Esq.

Dr. Merriman commenced his lectures on midwifery at the Middlesex Hospital, in 1810, and continued them till 1825, when he resigned them to Dr. Hugh Ley. These lectures were largely attended, and very many of the practitioners now living in all parts of England, recollect with great esteem their former teacher.

While engaged in the duties described above, Dr. Merriman received a note from Dr. Gooch, who was ill, and had been obliged inconveniently to postpone on that account the opening of his course of lectures of midwifery at St. Bartholomew's Hospital; he therefore requested Dr Merriman to give a portion of the course for him. To this he acceded, and during three courses, in 1820-1, he lectured at the Middlesex and at St. Bartholomew's, frequently giving a morning and an evening lecture on the same day.

It was then agreed by Drs. Gooch and Merriman to continue the course of lectures conjointly, but when this was submitted to the consideration of the medical staff of the hospital, an objection was made that Dr. Merriman had never been a pupil at St. Bartholomew's, to the propriety of which objection he perfectly assented, and withdrew his claims. Subsequently, Dr. Conquest was appointed.

The decease of Sir Richard Croft augmented considerably the number and rank of Dr. Merriman's patients. He had been long enough in practice to have acquired much reputation, and he now became more extensively employed in consultation practice, which induced him, in 1822, to remove to Brook-street, Grosvenor-square.

Dr. Merriman took very great interest in the Middlesex Hospital; from the time of his first connexion with it he was a constant attendant at the weekly board. This weekly board had recently been changed from a close to an open board, in the hope of raising the hospital from a state of insolvency. This was the strong recommendation of Lord Robert Seymour, the renovator of the hospital, to all the governors, and the success of the measure was most gratifying. Dr. Merriman commenced the subscription raised in 1833 for enlarging the hospital; he also begun the subscription in 1835 for founding the medical school, and gave to the school the skeleton of a native of Fort Macquarie, New South Wales. He first obtained for the assistant-surgeon defined and explicit duties, and brought forward the proposal for having an assistant-physician.

Being fond of literary and archæological pursuits, he hunted out the names of the persons represented in the large picture in the board room, of the Earl of Northumberland laying the first stone of the hospital in 1755, in "Marybonfields," as it was then termed, He compiled the brief history of the hospital prefixed to the laws and lists of governors. To him is due in great measure the application to Parliament for the incorporation of the hospital, with power to hold landed property, notwithstanding the statute of mortmain. He was honoured by the application of the lecturers, for four successive years, to deliver the prizes obtained in the medical school, and was appointed one of the treasurers of the hospital, in 1840, an office which he held till 1845. Since that time, increasing ill health, and the changes affected in the hospital, have scarcely allowed him to keep up his connexion with it.

Dr. Merriman early became, by purchase, a member of the Society of Apothecaries, but was too much engaged in practice to take much personal interest in the endeavours to obtain a licensing body for the future apothecaries. Our readers will recollect that after several years' agitation of this question, and after the two Colleges of Physicians and Surgeons had refused to take upon themselves the duty of examining candidates for general practice, it was at last offered to, and accepted by, the Worshipful Society of Apothecaries.

The Apothecaries of London had originally been incorporated by King Edward III. with the Company of Grocers; other and extensive privileges were granted to them in the reign of Henry VI., and they were finally separated from the Grocers, and formed into a distinct *Society*, by James I. By the act of Parliament passed in 1815, power was given to the Master, Wardens and Court of Assistants of this Society of Apothecaries, to elect annually twelve of its members into a Court of Examiners, who should examine and license all future apothecaries. The first Court of Examiners, which assembled on Thursday, the 1st of August, 1815, could not be very strict as to the qualifications required from candidates; but the successive Courts of Examiners have cautiously and gradually, but steadily, persevered in imposing a higher and higher standard of qualification from the candidates, and in the year 1828, they laid down a code of regulations, from which a most decidedly good effect has resulted. In 1831 the Court determined to require from students evidence of their having attended lectures on midwifery, and expecting that it would have a good moral effect upon the students to have upon the Court an examiner fully acquainted with this branch of medicine, they requested Dr. Merriman to allow himself to be proposed as a candidate for the office of examiner; he was accordingly elected by the Court of Assistants, and was re-elected annually for six years, when he retired in consequence of ill-health. The wisdom evinced by the Court in this and many other points, is amply proved by the distinguished character the apothecaries of the present day bear, and has had a collateral effect in inducing the proportionate increase in the amount of knowledge now required by the Colleges of Physicians and Surgeons from the candidates seeking their licenses above that which was required at the time of the passing the Apothecaries' Act. Dr. Merriman was shortly afterwards elected one of the Court of Assistants of the Society, in which he still continues, but he has not served the office of Master or Warden, owing to the infirmities of age. He was a member of the old Lyceum Medicum Londinense, founded by John Hunter and Dr. George Fordyce, which was at one time extensively supported, but gradually crumbled away; so that when, in the year 1837, an attempt was made to collect the names of the old members, very few could be discovered. The object of this inquiry was to ascertain whether the survivors would be willing to transfer the funded property of the Lyceum in the hands of Sir Alexander Crichton, the sole remaining trustee, to the Society for the Relief of Widows and Orphans of Medical Men in London and its Vicinity, or have it equitably divided amongst the survivors. It was, with only one dissentient voice, finally agreed to make a present of the money to that very excellent Society. This was the once celebrated political propagandist, John Gale Jones, to whom had been awarded one of the Lyceum Medicum Londinense gold medals, for his prize essay on the Hooping-cough. Poor Jones was now in great affliction and poverty; he was nearly blind, he had lost several of his children, and another, a daughter, was at the point of death; still he expressed his regrets that he was not able to do as much as the other surviving members. To him, therefore, was paid £10, much more than the amount which justly belonged to him, and his last few days were rendered more comfortable by the money so received—few indeed, for he only lived about a week afterwards. Mr. Gale Jones had been in considerable practice as a general surgeon, but his love of political excitement, and his great power as a public speaker, drew him away from the sober paths of his profession, and made him a reformer and a beggar. He was one of the most effective speakers that ever addressed an audience, and his speeches were much admired even by some of the most thoughtful of his own profession. We have heard the late Dr. Proctor assert, that he never heard a speaker who so completely came up to his idea of a perfect orator as poor Gale Jones. The Lyceum Medicum Londinense had been succeeded by the Westminster Medical Society, which met with various turns of fortune; latterly it had risen in public estimation, and has now become united with the long-established and well-known Medical Society of London. Long may its means of usefulness be continued!

Dr. Merriman was for many years a fellow of the Medical Society of London, in Bolt-court, of the Linnæan Society, and of the Royal Medical and Chirurgical Society, to which he was elected treasurer in 1837. We are glad of this opportunity of expressing our thanks to those fellows of this last-named Society who, by their perseverance, have obtained a remission of that rule which compelled him and other fellows of the Society to continue their yearly subscription, or cease to be connected with the Society. His resignation took place in 1847.

Dr. Merriman became a member of the Society for the Relief of Widows and Orphans of Medical Men, in 1800, and has for many years been one of its treasurers. This most valuble, yet too little appreciated Society, we are rejoiced to say, is now in a prosperous condition. We could wish that all our readers residing within its limits were members; they never could regret it; for should, happily, their own widows or orphans be sufficiently provided for, it would still be a great source of happiness to them that they had contributed by their small subscriptions to the comfort of the widows and orphans of their less fortunate brethren in the profession. At the very moment that this notice is passing through the press, cheques are in the hands of the acting treasurer to the amount of £750, being the half-yearly allowances to a number of the widows and orphans of those who, during their lifetime, subscribed two guineas a year to the Society. The fact is more eloquent and striking than any studied or laboured appeal to the feelings. Who shall determine the immense amount of privation and suffering that such a timely assistance will prevent, in the widows and children of those who at one time occupied respectable places in our profession, but whose utmost industry would not enable them to provide for those who were nearest and dearest to them! Ours is, indeed, a profession, the members of which too frequently die poor; often prematurely worn out by the labours and anxieties inseparable from a pursuit which, whilst it administers to the wants and sufferings of others, cannot always ensure comforts to the helper.

Throughout his life, Dr. Merriman has frequently sent communications to the medical and literary periodicals, besides papers read before the Medical Societies and published in their *Transactions*. He has also published several separate works. The following deserve especial notice:—

In 1805, he issued a pamphlet in vindication of vaccination entitled, "Observations on some late attempts to Depreciate the Value and Efficacy of Vaccine Inoculation." It is curious that he began to write with the intention of arguing in favour of small-pox inoculation, but found his arguments untenable.

In 1815, he sent an article, "Observations on the Cæsarian Operation and Premature Delivery," to the *London Medical Repository*.

In 1816, "Comparative View of the Mortality from Childbirth in London and Dublin," (signed "Medicus U.;") and "On the Necessity for Men-Midwives," (signed "Mogostokos,") to the *London and Medical Physical Journal*, in the same volume of which are numerous controversial letters on this latter subject between Drs. Adams, Kinglake, Merriman, and Edgell, and Messrs. Starr, Wayte, Atkinson, &c.

In 1820, he published in the *London Medical Repository* a series of papers, called, "Obstetrical Researches, by Maurice Onslow, M.D."

The papers published in the *Medico-Chirurgical Transactions* are, "Cases of Premature Parturition Artificially Induced," "Case of Difficult Parturition from Dropsical Ovarium," in Vol. III.; "Cases of Difficult Parturition from Pelvic Tumours," in Vol. X., and "On the Duration of Pregnancy," in Vol. XIII. This last is re-published, with some additions, in the fifth edition of his "Synopsis of Difficult Parturition," which, although other more complete treatises on midwifery have been brought forward by distinguished accoucheurs since its publication, must yet always retain its excellence with respect to the management of labours. It is written in a clear, plain and forcible style, and contains the experience, in many difficult cases, of one of the most accurate observers and the best practical accoucheurs of this or of any other age. It has been translated into Italian, German, and French.

Dr. Merriman's edition of "Underwood on the Diseases of Children" used to be a very well-known book; but more recent editions have been published, first by Dr. Marshall Hall, and lastly by Dr. Henry Davies. This successive re-editing has given a completeness to the work which it never before possessed; but it has inflicted upon it the disadvantage of four different styles of writing, so that each successive paragraph differs in style from that preceding it.

In 1810, Dr. Merriman published a pamphlet on "Retroversion of the Womb,"—a subject then little understood.

In 1833, a pamphlet was published, entitled "Thoughts on Medical Reform by a Retired Practitioner," who was understood to be Dr. Allen, domestic physician to the late Lord Holland. This pamphlet spoke unadvisedly and very incorrectly of the "Apothecaries' Act," and the manner in which the provisions of it were carried out. Dr. Merriman was therefore induced to publish a pamphlet under the title of "The Validity of the Thoughts on Medical Reform, by a Retired Practitioner, considered and elucidated by an Exercent Practitioner," which defended and explained the course adopted by the Court of Examiners; and it obtained considerable circulation.

His other literary productions are principally in the *Gentleman's Magazine*, and deserve some notice. Of the archæological and philological we can take no account; but the following, relating to the practice of midwifery and medicine, deserve notice. In the first volume for 1830 is an essay on the etymology and definition of "Midwife." In the seventeenth volume, new series, 1842, is a letter identifying the various persons contained in a picture by Hogarth, called "Cuniculari, or the Wise Men of Godliman in Consultation," a satire upon the notorious impostor, Mary Toft, the Godliman rabbit-breeder. In the nineteenth volume, 1843, is an interesting letter touching upon the honours conferred on medical men—viz., the peerage, baronetcies, membership of parliament, &c.; and reference is made to the story that when Dr. Freind was imprisoned for debt, Dr. Mead attended his patients for him, and received £5,000 in fees, which he handed to Dr. Freind on his release, and reasons are given to prove that so large a sum could not have been so received by Dr. Mead. In the 22nd volume, 1844, are two very interesting letters on the "taking her chamber," or "taking her rights," or "child-bed privilege" of queens and great ladies, explaining what is meant by those terms, and giving references to old authors who mention the subject. To the list of the authors may now be added Miss Strickland, who, in her History of Elizabeth, queen of Henry VII., describes at some length the ceremonies she went through on "taking her chamber," a month or thereabouts, before her confinement. In volume twenty-five, 1846, is an interesting memoir of the rise of the father of medical booksellers, John Callow. In volume twenty-six, 1846, is a memoir of Julian Clement, the celebrated surgeon-accoucheur of Paris, *tempore* Louis XIV., and of his journey into Spain to attend the queen of that country in her confinement. Also notices of Daniel Turner, M.D., and his contemporaries; and of Drs. Richard Bathurst and William Baylies, formerly physicians of the Middlesex Hospital. Dr. Merriman's last contribution to this celebrated periodical is a notice of Gideon de Lawne and his family. He was an apothecary of considerable eminence in the city of London in the reign of James I., and to him the Society of Apothecaries was much indebted for his liberality and support.

It is not usually the fate of medical men to acquire riches; some few, indeed, are supereminently fortunate in this respect, but the greater number must be contented if, in their old age, they can avoid the *res angusta domi*. This is the case with Dr. Merriman. The largest amount of fees which he ever received in one year was somewhat above £4,000; but his expenses were necessarily very great, and they were increased by an afflicting illness in his family, of twelve years' duration; but, upon the whole, his life has been not only a contented but a happy one. He was happy in his parents, happy in his married life, happy in his children and grandchildren, and, with a very few exceptions, happy in a large circle of dear and affectionate relations and friends.

Dr. Merriman has had three children—two daughters and a son, the present Dr. William Merriman. His wife died in 1831; his eldest daughter in 1844. Dr. William Merriman was M.B. of Cambridge in 1836, L.M. the next year, Licentiate of Royal College of Physicians, and Physician to the Westminster General Dispensary, in December of 1840; M.D. in 1841. He resigned his dispensary appointment in January, 1847, and was in March elected Consulting-Physician. On August 24, 1849, he was elected Physician to the Royal Infirmary for Children. He is also Assistant-Physician Accoucheur to the West London Lying-In Institution, and Physician to the Westminster Hospital Maternity Charity; also the *Acting* Treasurer of the Widows' and Orphans' Society. He is the author of the "Statistical Records of the Progress of Cholera over the Globe," published in the *Medico-Chirurgical Transactions*, 27th vol., 1844; and of "Arguments against the Indiscriminate Use of Chloroform in Midwifery," 1848.

Such is a concise but faithful and accurate account of the career of one of the most amiable and excellent practitioners that ever practiced in this metropolis.—

There are few surgeons who have been any considerable time in general practice in London, who have not, at one period or another, availed themselves of the valuable opinion and profound knowledge of Dr. Merriman, in obstetric cases, or the diseases of women and children. None who have had that opportunity can ever forget his undeviating kindness and consideration. To the youngest as to the oldest he has been, in every sense of the word, the professional brother, and always won the esteem of the practitioner as well as of the patient. Nor must the generous conduct of Dr. Merriman be forgotten by those who were not well able to give him his fee. The writer of this sketch knows of more than one such case, in which the distinguished subject of it attended gratuitously in consultation for many successive weeks, and with the same kindness and attention as though the patient had been a duchess, instead of the wife of a poor author. Indeed, we belive he made it a rule never to take a fee from clergymen with small incomes, from governesses, or other persons engaged in the duties of education. To himself such a proceeding was no less an honour than to the profession of which he is so distinguished an ornament. Nor shall we be overstepping the strict bounds of truth by declaring that Dr. Merriman has been the *beau-ideal* of a physician-accoucheur.

OUR PORTRAITS AND BIOGRAPHIES.

IN addition to the "One Hundred Portraits and Biographies of Members of the Medical and Surgical Profession," THE LANCET will occasionally contain, as a distinct department, the Portraits and Biographies of Distinguished Foreigners, whose labours may have caused their names to occupy an elevated position in the annals of medicine and the collateral sciences. They will appear in our columns at irregular intervals.

It affords us peculiar gratification to learn, that this new department has excited a feeling of very great interest throughout all branches of the profession. The undertaking is both costly and difficult of execution; but an unremitting application of energy and zeal will, we feel confident, enable us to execute the laborious task with complete success.

MILITARY MEDICAL PROFESSORSHIPS.

"PEACE is the dream of the wise; war is the history of man." And so, we fear, it will continue, until some process of regeneration can be devised, better suited to human nature than such as would be applied by persons whom it is not necessary to name. But peace, it is admitted, is the time when preparation should be made for war; and war we shall have, sooner or later—such a war, too, as we have never before waged. To demonstrate the truth of this latter proposition, we have only to look at the vast improvements made of late years, and during a time of profound peace, in naval and military science—in other words, in the horrible appliances for the laceration of the human frame and the destruction of human life. That such costly improvements have not been made, and that nations have not been arming heavily, solely for the amusement of admirals and generals, must be very evident. That England should be behind France in the means of offence and defence, we deeply regret. But this part of the subject is not within our province, beyond that which relates to medical and surgical arrangements for the benefit of our soldiers and seamen. In this department the successive governments of England have done nothing, absolutely nothing, during the last fifty years, though repeatedly warned of the necessity, in the most emphatic and solemn manner. The writings of JOHN BELL and ROBERT JACKSON may be cited in proof of such early appeal; and of late years, we have had the repeated and urgent appeals of Sir GEORGE BALLINGALL, the able and indefatigable, and for a long time the only teacher in the British empire, of all that relates to military medicine. Sir GEORGE BALLINGALL observes, that looking to the medical schools connected with the great military establishments of Prussia, of Austria, and of France, no one can help being struck with the liberal expenditure of foreign powers in their support, and the vigilant attention to the health of the soldier which this expenditure implies. Doubtless, foreign governments see advantages to the young surgeons educated in these schools, from the subordination and surveillance there established, from the opportunities they have of becoming acquainted with the habits, constitutions, and diseases of the soldiery, and, above all, from the opportunities of hearing the lessons of professional experience from men whose views are modified by military contingencies, and by long and arduous professional service. They are also influenced by those wise views which dictated to FREDERICK WILLIAM the Second, the foundation of his institution at Berlin, "*to preserve to the nation the experience acquired by the army surgeons during the war.*" But it is not for the institution of such schools as those in operation on the continent that Sir G. BALLINGALL contends. He contends, and has contended for years, for a more limited yet sufficient object—the establishment of a single lectureship in each of the metropolitan cities of the empire. He does not contend for separate schools for the *general* medical education of our army surgeons, but for *special* courses of that kind of instruction which the peculiarities of our public services demands. Much credit is due to the educational establishments which have opened their doors to the army and navy surgeons, and they are, as we can vouch, abundantly grateful for it; but this can never obviate the defects arising from deficiency of instruction in military medicine and surgery. Meantime, while that defect continues, the necessity for a remedy increases every hour. The contrast between the civilian and the soldier is well worthy of notice. The one has the choice of his medical attendant; on the other he is imposed without choice. What a field of reflection does this open up as to the duty of governments. When upon foreign service, no choice exists, even if it were allowable; and when the surgeon is ignorant of the climates and localities, and the diseases incident to them, all must equally suffer, from the general to the drummer, and from the admiral to the cabin-boy. All these things have been so ably and eloquently dwelt upon by Sir **George Ballingall**, that it is matter of surprise and wonder to us that his admonitions should not have been attended to in the proper quarters.

This country has had past experiences, and painful enough they have been. We have had our expeditions to Walcheren, to Rangoon, and to China, with all their untold and accumulated horrors; yet where has been the profit? The Duke of **Wellington** could formerly, when at the head of his armies, complain that shoals of surgeons, inefficient because uneducated, or educated only for civil contingencies, were sent to him by what was then called the Army Medical Board. Yet what has the duke done during his thirty-five years of uninterrupted peace and unlimited power to remedy so frightful an evil? **Frederick the Great** and **Napoleon** saw the evil, and applied the remedy. The Duke of **Wellingten** complains—and does nothing! A new shell, a new bayonet, a new musket, or a new bullet, is treated with the most ceremonious respect. But these things only make wounds. Anything that relates to the health and comfort of the soldier, or the accomplishment and reward of the military surgeon, from the institution of a professorship of military surgery down to the adoption of a new knapsack, is invariably sneered at and condemned by our military authorities.

THE MANIA FOR OPERATION.

When anæsthesia was first introduced into the practice of surgery, it was justly hailed as a most valuable boon to suffering humanity. The knife of the surgeon lost, as it were by magic, all its terrors. When the sufferer for the first time was presented to the eye of the spectator, lying passive under the influence of chloroform, how strongly was marked out the difference between the sensible and the insensible object of operative procedure. There was no longer witnessed the cry of agony issuing from the frail body of some poor nervous emaciated woman, whose breast was about to be submitted to the knife; nor the scarcely less painful effect of subdued emotion, in the strong frame, while it quivered under the strokes of the scalpel. The surgeon now has not to contend against these calls upon his humanity, and his responsibility is not increased, by knowing, that whilst he is performing a painful duty, he is inflicting great, though necessary pain. There lies the patient, under the influence of the Lethean vapour, revelling perhaps in dreams of happiness, whilst the operator is employed in removing a limb, or dragging away some portion of necrosed bone,—the patient not being the least sensible of either the pain or the danger of the operation.

Such are some of the more prominent benefits which chloroform has conferred upon sufferers from disease. Like all such blessings, however, it has its drawbacks and evils, amongst the more conspicuous of which may be mentioned the facility with which patients are now persuaded to submit to the knife, and the encouragement which it holds out to what are called "promising young men" "to carve their way into practice." But for chloroform, it is scarcely to be believed, that some of the formidable operations for the removal of ovarian tumours would have been resorted to when other and more justifiable means have been devised for their relief, or that the head of the thigh would have been submitted to the knife and the saw with as much nonchalance as though it were being removed from the dead body in the dissecting-room. The reports of discussions in the medical societies during the past session are frightfully illustrative of this operating mania. The "exploration," as it is called, of an ovarian tumour, by an incision through the walls of the abdomen, is regarded in no more formidable light than the application of the stethoscope; and an incision from the ensiform cartilage to the pubis is declared to be an innocent proceeding. How are we to show this? Not in the published records of the operations, for in these only the successful cases are brought under notice, whilst the instances in which the patient has succumbed are buried in oblivion. Can it be true, as is currently reported, that the statistics of what is called ovariotomy are mere attempts to blink the question, and that the results have been so unfortunate, that the practitioners who have performed the operation dare not tell the truth upon the subject? However this may be, rumour asserts this as the motive which influences certain operators in withholding from their professional brethren the results of their experience. With this, indeed, they have been openly charged in the first medical society of the kingdom. Can it be true? The silence that has followed the charge makes it evident that in some particular instances there must be strong motives for concealment. The publisher of unsuccessful cases, be these what they may, is, at all events, to be lauded for his candour. He may have erred in judgment, but his honesty must be held to be unimpeachable.

But what are we to say to those operators, honest as they may be, who have performed operations for which there is no justification, and which cannot be mentioned without exciting our strongest feelings of reprobation? An operation which has been denounced by **Brodie**, **Syme**, and **Coulson**, may justly be suspected; but what shall we say to such an operation when performed under the painful and pitiable circumstances as are alluded to in the Report of the Medical Society of London last week. We do not wish to enlarge upon this really distressing subject; but public duty demands that such operations should be held out as beacon-lights to the young surgeons of this empire, to warn them from pursuing a course which must eventually terminate in their discomfiture. With the grave thinkers and the great operators of our time the resort to the knife has been always regarded as an opprobrium upon the skill of the surgeon; not so with some of the young gentlemen who would vainly aspire to walk in the footsteps of a **Cooper** or a **Liston**. Let them remember, however, that these eminent members of our profession owed less of their just fame to their successful use of the knife, than to the exercise of those acquirements and that sagacity which enabled them to select the proper cases for operation. Such men as these did not operate for the sake of cutting; they resorted to the knife only as a substitue, and that, to them, a lamentable one, for other less successful, but always employed resources of surgery.

STUPIDITY OF AN ANTI-DRENCH.

No doubt many of our readers are aware that a stupid fellow, under the signature of "Anti-drench," has been vilifying the surgeons in general practice, in the columns of the *Times*. We regret that any influential journal should lend itself to an attack on a class as hardly worked and as poorly paid as any in the community. Anti-drench calls upon the *Times* to help him, as it helped him and others last year in the case of butchers' meat, by lending its aid to the reduction of medical fees, as well as the price of beef and mutton. We can see no reason for this, except that Anti-drench would be glad to rid himself of the charges incident upon his having a complaining wife and an ailing family, and throw the burden from his own shoulders upon those of his medical attendant. The argument used in the reduction of the price of butchers' meat was, that the price of cattle had fallen to a great extent without any corresponding fall in the price of meat in the butchers' shop. We have not learned, however, that the cost of producing medical men is one whit less than formerly. Medical education is quite as costly, the necessary expenses of a surgeon in general practice are quite as heavy, (with the income-tax to boot,) and medical duties are quite as harassing and dangerous as ever. Anti-drench would require a highly qualified man, living in a good house in "a decent quarter of the town," keeping necessarily a gig or phaeton, employing a dispenser to dispense medicines, and a boy to carry them out, to attend him and his family for less than three-and-sixpence a visit! Anti-drench may-perhaps, by-and-by, think of medicine as the profession for the "little Charley," whose teeth are now so troublesome and expensive. He will debate, perhaps, whether,—with the cost of a thousand pounds or so for medical education, a few years of idleness before practice comes on, and then incessant work, and the exposure to the vulgarism of a future Anti-drench,—it will be worth while to make his son a doctor; and he no doubt will decide against such an absurdity, and prefer to make him, like his grumbling father, "a poor working scrub of £300 or £400 per annum.

We should have thought, what with Hospitals, Dispensaries, Penny Clubs, Self-Supporting Dispensaries, Advice Gratis, and other things, the medical profession ministered to the wants of the community with something like economy. But Anti-drench evidently thinks otherwise. He will take no account of long credits and bad debts, exposures to contagion, cholera work, and other trifles of a like kind. His main complaint is,—namely, the number of visits. Surely he can, if he pleases, decide whether his medical attendant, "Mr. A.," shall call or not call upon Mrs. Anti-drench, if he does not possess sufficient confidence in the honesty of Mr. A. to trust to his calling when he may think it necessary, to stave off a convulsion from the "baby," or a remittent from Master CHARLES. We fear Anti-drench must be constituted somewhat after the "Caudle" type. Medical men are often placed in very difficult positions respecting the number of visits they may pay. When the friends of a patient may, think frequent visits necessary, the medical man may know they would be useless; and when the patient may see no danger, the medical attendant may have the greatest cause for anxiety. We are very sure that medical men are quite as often charged with remissness as with over-visiting. It has happened that within the last month two inquests have occurred, within our own knowledge, which tell very forcibly on this point. One was a case, in which a surgeon at Clerkenwell was charged with being the cause of the death of a person he had attended four months before. The gravamen of the charge was, that he had allowed eighteen hours to elapse between his visits, the patient being at the time in no extraordinary danger! The other case was at Halifax, in Yorkshire, and a verdict of manslaughter was positively returned by the coroner's jury against the medical man. The charge in this case was, that he had not attended daily, in person, to dress a sore upon a boy's back, but had sent ointment and directions, and visited at intervals!

What has Anti-drench to say to facts of this kind? Either he and others must employ medical men, in whose honesty they can place confidence, or they must themselves arrange, on their own responsibility, when, how, and where, medical visits and medical administrations shall be regulated.

VICIOUS ADVERTISEMENTS.

WE rejoice to see that a society has at length been formed called the "Union for the Discouragement of Vicious Advertisements," whose operations are directed against that filthy form of quackery and swindling we were the first to denounce and expose. Much good must result from the direction of the lay public to this form of moral contamination. The address of the new society, which lies before us, shows that its originators are perfectly conversant with the tricks of the fellows they design to unmask. Of the malady which rages throughout the vile brood of obscene publications, the prospectus of the "Union" is perfectly right in stating—"That the actual "existence of this infirmity (impotence) is most "rare; medical men scarcely ever meet with it, and "when they do, it has not its origin in youthful "errors, as insinuated, but they state that patients "*whose minds* are unhinged by the horrible idea

“ of being thus afflicted, come before them daily.” This idea is wholly due to the pernicious familiarity of their minds with the titles of infamous books.

The prospectus of the “ Union” contains a calculation of the amount expended in advertising three of these obscenities, in “ sealed envelopes.” Taking only three of the books, it is computed that—

3 advertisements in 9 daily papers cost at least.	£3,780	per annum.
Ditto, in 20 weekly ditto. . . .	1,400	”
Ditto, in 220 provincial weeklies.	15,400	”
	£20,580 !	

We learn from the same source that the country newspaper proprietors allow the vagabond class alluded to “ to enter into contracts for the insertion of their notices ;” and we regret to find, that out of all the provincial papers, not more than twenty at most exclude their advertisements. We can only say that, in our opinion, the keeping of infamous houses is quite as respectable a mode of subsistence as that of living by the produce of these infamous advertisements.

But the cost of advertisements is only one of the items of expense incurred by these odious “ firms.” Rents, printing, bookbinding, postage, agencies, &c., must make up an equally large sum. In our remoter colonies, Calcutta and Sydney, these moral pestilences are found in full vigour. The incomes must be immense to support such expenses, which not only admit of such constant and gigantic outlay, but of large accumulations of wealth. Not long since, a member of one of the vile firms turned up as one of the largest proprietors in a great railway. Every day, during the London season, three or four gaudy carriages, in the style of blue bodies and yellow wheels, and with horses, coachmen, and footmen to match, may be seen flaring in the ring in Hyde-park, containing the wives or women of these wretches, and sometimes the quacks themselves, hook-nosed, black-locked, and over-done in jewellery and dress of the most extravagant fashion. These quacks and their progeny are capered along more noisily than my lord duke or marquis. But it is not only in the drive that these harpies and the aristocrats are seen together; we have lately ascertained that some of the most notorious hells in St. James's are presided over by these fellows, who follow the business of “ balms” and “ elixirs” by day, and dice by night.

The circular of the “ Union” sets forth a fact relating to the habits of these vermin with which we were well acquainted, but which it may not be out of place to repeat :—

> “ Some may suppose that a large concourse of patients are attracted to their houses, whose payments might compensate for losses in advertising. Such, however, is not the case. Their doors have been watched. Few go in or out. There is none of that crowd which is a morning nuisance to the neighbours of a successful medical man; but the postman delivers, almost hourly, large packets of letters, containing some, perhaps, money, but most, apparently, the postage-stamps which, the advertisements inform us, may be sent to pay for the books.”

We are told in the advertisement, that “ Manhood” is being translated into “ five languages,” so that its authors are not content with the field afforded by the mother-country and her forty colonies, but must needs endeavour to indoctrinate other countries with their abominations.

There is, then, ample scope and verge for the new society, which, if it but abate this evil, will do society as great a service as that rendered by a HOWARD or a WILBERFORCE. The following quotation will show the plan proposed by the society at the present time, but no doubt it is intended to extend its operations to more positive measures. After exhorting every reader of a newspaper inserting these advertisements to address a protest to the editor, and dwelling upon the force of public opinion, the circular proceeds :—

> “ By simply sending your name to be enrolled in the UNION now forming FOR THE DISCOURAGEMENT OF VICIOUS ADVERTISEMENTS, you will, with no expenditure of money beyond a postage-stamp, and little more than a stroke of your pen, assist materially with your influence and sympathy a good cause. You pledge yourself to no test by so doing; you simply give encouragement to those who are labouring with this object, by declaring your intention to check a great moral evil, and remove from England this foul blot. The expression of your wish will work its own accomplishment.”

The letters are to be addressed to “ J. HARRISON, New Inn, Strand, Hon. Secretary to the “ Union for the Discouragement of Vicious Advertisements.” If such a society really exist, and is prepared to proceed in the good works impressed upon its name and title, we can promise it the hearty and energetic co-operation of the profession.

But as revolutions are not made with rose-water, so we fear a simple protest will not put down these knaves. We would suggest to the society, that these fellows, for every bottle of “ balm” or “ restorative” which they sell, infringe the Apothecaries' Act of 1815; and that they may be proceeded against, with the utmost ease, in the County Courts. The penalty is £20 for each offence. If this lever were well worked, the metropolis might soon be rid of a set of harpies more vile than any other class of moral outcasts which can be found—so vile, indeed, that their very residence in a street or square strikes it as if with scrofula, and renders it almost uninhabitable by decent people. Have at them, we say to Mr. HARRISON and his friends; and no quarter to the entire race. Public prosecution is the only efficient mode of proceeding.

LIVERPOOL MEDICO-ETHICAL SOCIETY.—The Annual General Meeting took place on Tuesday, the 21st instant. The report of the council was unanimously adopted, and ordered to be printed for distribution among the members. Dr. Formby was re-elected president. Mr. Blackburn was re-elected a vice-president. Sir Arnold Knight was elected vice-president. Mr. Jones was re-elected treasurer. Mr. Harrick was re-elected honorary secretary.

Reviews and Notices of Books.

A New and Successful Treatment for Febrile and other Diseases through the Medium of the Cutaneous Surface. Illustrated with Cases. By W. Taylor, Surgeon to the Clerkenwell Infirmary. Fcap. 8vo, pp. 170. London.

Mr. Taylor has had extensive opportunities of putting into practice the treatment which he advocates as new and successful, in the very useful and practical little work before us. For the last twelve years he states he has employed this treatment in the Clerkenwell Infirmary, with remarkably good results. In typhus, in scarlatina, measles, dropsy, phthisis and mania, he has found it of most essential service. It also appears to have afforded unusual benefit in cases of hydrocephalus and delirium tremens. The work is the production of a practical man, who states plainly and concisely the results of his own experience. He speaks with confidence, but not beyond the limit which his unusual success would seem to justify. We cordially recommend Mr. Taylor's little volume. The following extracts will give some idea of his mode of proceeding :—

"My mode of procedure did not appear worthy of the name of 'medicine;' it looked more like an empirical than a scientific treatment, and I was almost 'afraid' to talk of my success. When I was sent for to see a patient labouring under dropsy, typhus fever, scarlatina, or measles, I was expected to use regular therapeutical means; but not to order the patient to be rubbed. And thus, with all the startling facts that were accumulating under my eyes, I did not once expect to gain opinions in favour of my seemingly irregular practice, the more so, as my own partner, who heard perpetually of the cures, invariably regarded them as the happy consequences of purges, diuretics, &c. Still, as already stated, a forcible impression having been made on my mind that fever was cured by the skin, and that a healthy action of that organ was producible by rubbing it to saturation, with some fatty or greasy substance, I set to work, in order to ascertain what form of ointment was most likely to be efficacious. At first, common oil was used, but without benefit; then lard, with a little more advantage, on account of its greater consistence; but this also passed quickly off the skin, and was mostly absorbed by the bedclothes. It then occurred to me that a much firmer ointment would be less liable to absorption by the bed-linen, that it would more readily be taken up by the skin, and be rubbed in more easily. A variety of further experiments were accordingly made: proceeding from oil at the one extremity, to wax at the other, and attempting to 'imitate the secretions of the skin,' I by turns resorted to the ceratum catacei, to prepared lard, to suet (both mutton and beef,) but I eventually mixed lard and suet, in equal proportions, melted them carefully over a slow fire (or a water bath,) and this combination having acquired about the consistence of common tallow, was, on extensive trial, found to answer every requisite, no mixed ointment that liquefies at a temperature below that of the blood, being equal to it."—pp. 5-7.

"With respect to the time and mode of applying the ointment, I have found that it should be rubbed in night and morning, (more frequently in urgent cases,) on every part of the skin which is hard and dry. It should be done freely but gently, during from half-an-hour to an hour at a time, indeed, until the skin is saturated; when, from being harsh, hot, and dry, like washed leather, it becomes soft, and, for the most part, after a few applications, yields the feeling of velvet. We all well know that continued gentle friction of the skin, even dry friction, tends materially towards restoring healthy action. Let any person suffering from *hot and dry* hands well rub them with the ointment in question, and wash them a few minutes afterwards with soap and water, he will appreciate the comfort and benefit of this measure. When a sensation of morbid heat and dryness rests on any part of the surface of the body, this can be more easily removed by induction, with the hard ointment, as the friction restores the secretions of the part, than by lotions and cold applications."—pp. 11, 12

Memoirs on the Nervous System. By Marshall Hall, M.D., F.R.S. pp. 113. 1837.

Synopsis of the Spinal or Diastaltic Nervous System. By Marshall Hall, M.D., F.R.S. pp. 100. 1850. London: Longman & Co.

Sufficient has been published in our own pages relative to the subject of these works, to render it unnecessary for us to enter upon any commentary on their contents. It is our present duty to mention, that in these slim volumes the profession is presented with the spinal system in its utmost clearness and simplicity, and at the very lowest cost. For five shillings, or for ten shillings, the practitioner may now possess, what we venture to say is become as essential to the knowledge of the nervous system, as the stethoscope itself is to that of the diseases of the lungs and heart.

These volumes, especially the last published, should, nay, must be, not on the library shelves, but on the table, or rather in the hands of every practitioner of medicine, as an act of justice to himself, to his patients, and to the profession. The "New Memoir," published in 1843, may be added by those who wish to enter quite fully into the subject. We are sorry that its price is not less considerable.

Now that all envious and discreditable cavil has passed away, like the morning mist before the rays of the sun, nothing remains but to make use of the principles unfolded to our view by our author in these pages, which may be viewed as a contribution, not to physiology alone, but to diagnosis and practice.

The Influence of Chemistry in the Animal, Vegetal, and Mineral Kingdom. By Dr. Sheridan Muspratt, F.R.S.E., Professor of the Liverpool College of Chemistry, &c. 8vo, pp. 16. London: Taylor, Walton & Maberly. 1851.

This little brochure is but a rapid survey of the importance of chemistry—that central region whence radiate all the natural sciences—in the investigation of the whole arcana of nature. We shall quote just one passage, where, in addition to the essential aid which chemistry renders to medical science and manufactures, it will appear that agriculture—that "first of sciences" as Chateauvieux correctly termed it—has become of late years pre-eminently indebted to the light shed by chemistry for the elucidation of its principles. Dr. Muspratt alludes to

"The perfect success of some experiments that were performed by the Rev. Mr. Huxtable, at Sutton-Waldron. The problem he sought to solve was the following:—Can we, by supplying to the soil the constituents of a plant, cultivate that plant on any land, howsoever sterile in itself? He selected for the purpose about five acres of the most barren and unlikely soil in his neighbourhood; such, in fact, that to grow swedes upon it was regarded as impossible by the farmers in his district. Chemical analysis pointed out to him, that to produce 20 tons of bulbs and 5½ tons of tops, nearly 5 cwts. of inorganic matter, consisting of 146lbs. of potassa, 76lbs. of soda, 69lbs. of sulphuric acid, 30lbs. of phosphoric acid, 103lbs. of lime, 22lbs. of magnesia, 23lbs. of chlorine, and 23lbs. of silica, would be required. as well as a certain amount of organic matters, consisting of ammonia and carbonic acid. A mixture of the above was made, and the issue exceeded the rev. gentleman's most sanguine expectations. This proves that with a skilful employment of labour, reliance on the principles of chemistry, and adequate capital, there is no soil, how poor soever, which will not abundantly repay the cost of cultivation. The whole human race is particularly interested in the scientific progress of agriculture, as so great an amount of the fixed capital of the civilized world is employed in the cultivation of the soil."

True is it, as Dr. Muspratt says, that "the chemist is not the benefactor of a class, but the benefactor of a nation." Of the abilities of Dr. Muspratt to become the exponent of its benefits there can be no doubt; they are attested, not only by his published works, but by the testimonies of the chief authorities in chemical science who have flourished in our own day.

Address before the American Medical Association at the Anniversary Meeting in Cincinnati. By JOHN C. WARREN, M.D.

THIS address is elegantly written, and gives a clear and full account of the recent discoveries in medicine and surgery.

Guy's Hospital Reports. Second Series. Vol. XVII. Part 1. London: Highly.

THE principal articles in this number of Guy's Hospital Reports are, the Sir Astley Cooper Prize Essay on Inflammation, by Mr. Wharton Jones; on Anæmic Murmur, by Dr. Hughes; Cases from Obstetric Practice, by Dr. Lever; and a chapter on Medical Jurisprudence, by Dr. Alfred Taylor. Mr. Bransby Cooper also contributes an interesting article on the Application of Chemical Analysis and Microscopic Examination of Morbid Products to the Formation of a Correct Diagnosis. Cases are also recorded by Mr. Hilton, Mr. Cock, and Mr. Rump.

The present number fully sustains the character which Guy's Hospital Reports have long since obtained. We think, however, that some of the cases might, with much more benefit to the profession, have been made public through the more extended medium of the medical press.

Notice of an Unpublished Manuscript of Harvey. By G. E. PAGET, M.D. London: Longman, Brown & Co.

THIS is a brief account of a manuscript discovered in the Sloane Collection of MSS. in the British Museum, which, according to evidence adduced by Dr. Paget, is indisputably a production by the celebrated discoverer of the circulation. It is "a 12mo volume, on which is written in Sir H. Sloane's hand, '*Gulielmus Harveius de Musculis, motu locali.* It is numbered 486 in Ayscough's catalogue."

"The MS. consists of a hundred and twenty-one leaves, nearly all of which are written on both sides. Its contents are rough and concise notes, forming a syllabus of a course of Lectures on the Muscles of the human body. The language is Latin, interspersed here and there with English words or phrases. The writing, besides being antiquated in style, is for the most part surprisingly bad; it can be deciphered only with great difficulty, and many words are wholly illegible."

Although imperfect at its commencement, what exists is in good preservation, and on two pages is the date 1627, or twelve years after his appointment to the professorship of anatomy and surgery at the College of Physicians, and the year before the first publication of his great work, *De Motu Cordis et Sanguinis.*

It is curious to observe that Harvey, like other men of sense and genius, evinces a laudable desire to divest his science of pedantry, and to render his description readily accessible to the minds of his hearers by the use of homely and forcible designations in the vernacular tongue. *E.g.*—

"To some of the muscles he gives quaint names. Thus to the *Pedis Tibialis posticus,* he adds 'WH Tiptoe musele.'"—p. 13.

His following classification of organs is not more fanciful than illustrative of a tendency to seek for analogues and generalizations, which is amongst one of the characteristics of a comprehensive and exalted mind:—

"'*An Cor Captayne . factor . Owner.*
Cerebrum Master of the Ship
Nervi Master's mates, boys, officers
Musculi nautæ'"

"We may smile (says Dr. Paget) at Harvey's giving the predominance to his favourite organ, the heart; but we must not criticise the quaint style of his notes, remembering what they really are,—nothing but short notes intended for the eye of the lecturer alone, to serve as hints on which he might expatiate."—p. 18.

Those curious in the antiquities, as well as interested in the literature, of our profession, will doubtless find pleasure, if not profit, by consulting the MS. itself in the library of the British Museum.

A Treatise on the Cause and Nature of Vital Heat. By WILLIAM PARKER, M.R.C.S. Barnstaple: Searle & Sons. 12mo, pp. 60.

AT the especial request of the author, we have re-perused this treatise—of which we gave a brief notice in a former number. But we are unable to modify the statement which we made respecting it on that occasion—viz., that "no experiments are cited nor proofs advanced tending to establish the opinion of the author, that nitrogen is the cause and source of heat in the human frame." To say that the effects of nitrogen and calor are identical; thence to jump to the question, "why should not the source and nature of them be identical?" and lastly, to assume this identity, is surely a process in the highest degree inconsequent and illogical. Some of the assertions scattered through the treatise clearly belong to that class characterized by the Scotch verdict "not proven." Such are the following:—

> "Nitrogen, in its simple state, imparts food to the brain and blood."..."Nitrogen, which supplies food to the blood, and through the lungs, imparts an impetus to the heart."..."I believe that in the process of respiration, the nitrogen is carried into the lungs, and absorbed by the blood, *to give the specific heat to the blood*."... "The assumption that nitrogen is the most powerful agent in producing this result (the restoring the functions of the system to a normal state, after accidents, &c.) is propounded from a careful scrutiny of its experience."..."Sir H. Davy says, 'a piece of iron made red hot by hammering cannot be strongly heated a second time by the same means, unless it has been previously introduced into a fire.' *If* we grant the property of heat to exist in nitrogen, this problem will be more clearly accounted for by the fire again expanding the iron to its former dimensions, when it takes in its due portion of atmospheric air, containing nitrogen, which the hammering had expelled, *and in which the property of heat existed!*"

Upon a most important practical point, concerning the inflation of the lungs for resuscitation, our author says—

> "To inject atmospheric air is found to be more productive of good effects than when communicated by the human breath."

And then, as the dramatist has it, "still harping on my daughter," this sentence is immediately followed by—

> "The reason appears to me to proceed from the supply of *nitrogen* thus carried into the lungs."

An enthusiast on any subject traces the effects or presence of that on which he is an enthusiast in every event that occurs under his notice. Chauncy Hare Townsend (himself an enthusiast) treats of this tendency, in a passage so suitable, that we shall here quote it:—

> "The votary runs the risk of turning his thoughts upon it (his subject) not only too vividly, but too exclusively. Absorbed by a mighty interest, he is too apt to pass into a mood, wherein all nature is but a reflection of the object,—when, if we turn a page, we think that it bears reference to the subject of our ceaseless contemplation,—when every sound teems with appropriate oracles, and every sight with omens addressed to us alone—all figuring the image of our own thoughts."

Like Alonzo, in the *Tempest*, the enthusiast exclaims—

> "Methought the billows spoke, and told me of it;
> The winds did sing it to me, and the thunder
> Pronounced its name."

Thus every phenomenon of unascertained origin, every new idea gained from conversation, lectures, books, every actual discovery, is held, by the partizans of different dogmas, as shadowing forth so many exemplifications or proofs of the cogency of their peculiar views, (as the vast amount of correspondence received in THE LANCET Office has given us numerous opportunities of remarking.) The unknown cause of cholera, in particular, has formed a great battle-field for all kinds of rival hypotheses.

We do not assert that these remarks are more especially demanded, by the little work before us, than by many others which pass through our hands, though some portions of its contents have called them forth in this place. Though we cannot more fully agree with the views of the author than heretofore, he is at least indebted to us for a *longer* notice than the one we had previously bestowed on his production.

RECORDS OF THE RESULTS OF

MICROSCOPICAL AND CHEMICAL ANALYSES

OF THE

SOLIDS AND FLUIDS

CONSUMED BY ALL CLASSES OF THE PUBLIC.

"Forewarned, forearmed."

COFFEE, AND ITS ADULTERATIONS.

That the adulteration of coffee prevails to a great extent may be inferred, not merely from the variations frequently to be observed in the outward characters of different samples of this article, but also from several considerations of a general nature.

1st. While the consumption of all other articles, during the past few years, has progressively increased with the increase of the population, coffee, during that period, has remained comparatively stationary, although, as is well known, the use of a commodity, under the name of coffee, is now much greater than formerly, especially amongst the members of the different temperance and total abstinence societies.

2nd. It has been ascertained that a much larger quantity of a substance called coffee is annually sold than passes through the custom-houses.

3rd. Chicory is cultivated in large quantities in various parts of this country; and it is even rumoured that a *Minister of the Crown* is himself a large grower of this plant. Now, as little or no chicory is *retailed* to the public under its own name, the inference is, that it is employed, and annually consumed, in the adulteration of coffee.

But it is very far from necessary that in making out our case we should rely upon general statements and arguments; scientific evidence of the most conclusive character has been obtained, by which the nature of the adulterations of coffee, and the extent to which they prevail, may be ascertained.

Now, the chief articles with which coffee is adulterated are, chicory, corn, beans, and potato. It is necessary that these substances, like the coffee-berry itself, should be roasted—that is, that they should be partially charred, and so far reduced to the condition of charcoal, or carbon.

In vegetable charcoal, as is well known, the component parts of the several tissues may yet be distinguished, without any great difficulty, by means of the microscope. The less completely carbonized structures of the coffee-berry, chicory, and other organic substances employed in the adulteration of coffee, may likewise be detected, with still greater facility, by the same means. This fact, as will presently be seen, has been fully proved by the results obtained.

The vegetable productions with which coffee is adulterated differ very considerably from each other; hence it might be concluded that each would present well-marked structural differences. And this is really the case: the structure of the coffee-berry is very different from that of the chicory-root, and both differ as much from corn, beans, or potato, as these do from each other.

We will now describe sufficient of the structure of each of these substances as will be necessary to enable us to detect each adulteration separately.

Structure of the Coffee-Berry.

Two parts are to be discriminated in the coffee-berry —the substance of the berry, and the testa, or investment by which it is surrounded. The berry, previous to roasting, and even after it has been soaked for a long time in water, is hard and tough, in which respect it differs from all those substances which enter into the adulteration of coffee, and which become softened by immersion in cold water; the hardness is even retained subsequently to the charring, and is so great, that by this character alone, the fragments of the ground and roasted coffee-berry may be readily distinguished from those of chicory.

It consists of an assemblage of vesicles or cells of an *angular* form, which adhere so firmly together that they break up into pieces rather than separate into distinct and perfect cells. The cavities of the cells include, in the form of little drops, a considerable quantity of essential oil, on the presence of which the fragrance and many of the active principles of the berry mainly depend.

The testa or membrane presents a structure very distinct from that of the substance of the berry itself, and when once seen it cannot be confounded with any other tissue which has yet been observed entering into the adulteration of coffee: it is made up of elongated and adherent cells, forming a single layer, and having oblique markings upon their surfaces. Between the berry and its covering a large quantity of essential oil is generally present.

The quantity of the investing membrane present in a broken and divided state in any sample affords some clue to the quantity of coffee contained in it.

It has been proposed to deprive the berry of this membrane, and a patent has actually, we are informed, been taken out for this purpose—a process which we consider to be not merely unnecessary, but positively injurious, because the removal of this tissue cannot be effected without the loss of the greater part of the essential oil lying between it and the berry, and usually adherent to the former.

In the groove which runs along each berry, a few small vessels, formed of a single and continuous spiral thread, are usually to be met with; it is impossible, however, to confound these with the ducts hereafter to be described.

Now, the roasting of the berry does not alter its structure; the tissues are indeed partially charred, but they still preserve their chief characteristics. The essential oil, however, is no longer visible in the cells in the form of minute drops or spherules. This has, in part, probably been dissipated by the heat employed in the process of roasting, and in part is more generally diffused throughout the cavities of the cells; that it is not entirely dissipated and destroyed is evident from the fact, that in ground roasted coffee, diffused in a little water, the oil may be readily detected in considerable quantity in a partially fused state, and therefore in little masses, irregular in size and form.

Structure of the Chicory Root.

Chicory is the root of the *Cichorium Intybus*, a plant belonging to the natural order *Cichoraceæ;* and, as might be supposed, from the very dissimilar character of roots and seeds, it differs very greatly in structure from the coffee-berry.

In it also two parts require to be discriminated, cells and vessels; the chief bulk of the root is made up of little utricles or cells, which are generally of an *elongated* form, but sometimes *rounded*, and which, unlike the cells of the coffee-berry, separate from each other with great readiness, and present appearances which, when once observed, cannot be mistaken.

The cells do not contain globules of essential oil, a fact of much importance.

Running through the centre of the root, in a longitudinal direction, are bundles of vessels varying greatly in size, but all of the dotted or interrupted spiral kind. Now there is nothing analogous to these beautiful structures in the coffee-berry, or in any other of the substances ordinarily employed in the adulteration of that article.

Chicory, owing to the absence of essential oil, unlike coffee, readily imbibes water, and when immersed in that fluid it quickly becomes soft, in which also it differs from the roasted coffee-berry.

Structure of the Farina of the Gramineæ.

Each grain of the different species of corn, deprived of its investing tunics, or husks, consists of a network of cells, the substance of which has been denominated cellulose, and in each of which a varietable number of starch granules is included.

Now these starch granules differ in character in different plants, so that by their means it is often very easy to name the particular species to which any given granule belongs. In the majority of the corn tribe, the granules are flattened and rounded, discs of moderate size, and obscurely marked with a number of concentric lines or rings; the grains also of many species possess other perfectly distinctive markings, of the characters of which, in this place, it is not necessary to give a detailed description.

Structure of the Farina of the Leguminosæ.

The different species of beans and peas, deprived of the seed-covering, possess a structure altogether analogous to the grain of corn in a similar state, that is, each pea or bean consists of a reticulation of cells, the cavities of which are occupied with numerous starch granules.

The granules in the pea, bean, and many other species of this tribe, are large, oval, sometimes reniform, and the central cavity is of an elongated shape, presenting the appearance of a furrow under the microscope.

Structure of the Farina of the Potato.

Pure potato flour is seldom used in the adulteration of coffee, it being too expensive, and otherwise not well adapted for the purpose; it is usually the whole potato which is employed, and which is probably first boiled, and then roasted.

The structure of the potato resembles, to a great extent, that of the corn, pea, and bean, already cursorily described. In the unboiled state, the cells form a coherent reticulation, but after boiling, they readily separate from each other, and thus show that each is really a distinct and independent structure.

These cells present a somewhat fibrous appearance, and are, of course, much larger than the starch granules, many of which are contained in each cell.

The granules themselves, as seen in pure potato flour, are large, ovate, and beautifully marked with concentric rings; but in the boiled potato, they lose much of their form and beauty, and become, for the most part, misshapen and collapsed—changes attributable, probably, to the gradual manner in which heat reaches the grains, when the water is applied cold and afterward sheated.

COFFEE COLOURER.

But the list of adulterations does not terminate with the articles enumerated; at least one other still remains to be noticed.

The uninitiated in the mysteries of coffee imagine that the deep-brown colour of the beverage made from that substance is peculiar to coffee, and that the richness and depth of the colour indicate the strength and purity of the article. Happy mistake! Ignorance for once blessed!

Now this brown colour is not peculiar to, or indicative of, coffee; it results from the burning, or partial charring, of the berry; and most other vegetable substances, when thus treated, as chicory, corn, &c., yield, on infusion or decoction, a similar colour.

When cold water is poured upon coffee, the liquid acquires colour only very slowly and gradually; the colouration is never very deep, even after prolonged maceration, and the transparency of the water is scarcely at all affected; when boiling water even is employed, the infusion, although somewhat deeper, still remains clear and transparent.

When, however, cold water is poured upon ground chicory-root, the liquid becomes almost immediately of a deep brown, and in a very short time the depth of colour is so great, and the loss of transparency such, that the fluid is rendered opaque; with water at the temperature of 212° Fah., the results are of course much more marked.

The very different effects of the action of water on ground coffee and chicory afford, then, one very useful and practical means of discrimination between genuine coffee and that adulterated with chicory.

The natural colour thus produced does not, however, satisfy the trade, and a material is very extensively employed to heighten the tint, and to hide the nature of the adulterations practised, called "the coffee-colourer."

This is sold in tin cases or canisters; its use is generally attended with secrecy, but in some shops it is vended openly, not as a coffee-colourer, but as a "coffee-refiner"—a phraseology indicative simply of a refinement of deception.

The specimens of this article which we have examined have consisted of burnt sugar, (probably some cheap form of sugar, as the "footings," or treacle,) the great colouring properties of which are well known.

The rapid colouration of water, although calculated to excite suspicion, affords, therefore, no certain proof of the adulteration by chicory, as it may be occasioned likewise by the presence of the coffee-colourer just noticed.

We have been informed that sugar is sometimes added to the coffee-berries while undergoing the process of roasting, and is thus burned, and converted into a coffee-colourer. This material is used also by the retail dealer, but principally by the owners of coffee-shops, who employ it to cover and conceal the poverty and nauseous character of the filthy and abominable compound which many of them vend, at a penny and a penny-halfpenny per cup, under the much-abused name of coffee.

We are happy to state, that this substance, whenever contained in coffee, may be readily detected, by chemical means, by the proper application of the tests used for the detection of grape-sugar.

Extent to which Coffee is Adulterated.

We will now proceed to ascertain, by the examination of different samples of coffee, the extent to which the adulteration of that article prevails. The results obtained from the analyses exhibited in the first table, are entirely distinct from those mentioned in the table that succeeds it, and were made several months previously.

RESULTS OF THE MICROSCOPIC EXAMINATION OF THIRTY-FOUR DIFFERENT COFFEES OF ALL QUALITIES AND PRICES, AND SOLD UNDER THE FOLLOWING ATTRACTIVE TITLES:

Coffees of High Price.

1. *Finest Mocha Coffee.* No adulteration.
2. *Noted Old Mocha.* No adulteration.
3. *Finest Jamaica Coffee.* No adulteration.
4. *Rich Old Mocha.* Of chicory, a good deal.
5. *Best Old Mocha.* A little chicory.
6. *Fine Old Turkey Coffee.* Much chicory.
7. *Very Fine Mocha.* Much chicory.
8. *Genuine Old Mocha.* A little chicory.
9. *Finest Turkey Coffee.* Contains chicory.
10. *Celebrated Old Mocha.* A good deal of chicory.

Coffees of Medium Price.

11. *Costa Rica Coffee.* Nearly one half chicory.
12. *Fine Jamaica Coffee.* Contains a considerable quantity of roasted corn.
13. *Delicious Coffee.* Roasted beans and chicory, forming about one-third of the article.
14. *Plantation Coffee.* Of roasted corn, much, with some chicory, both together forming not less than a third of the sample.
15. *Finest Turkey Coffee.* Much chicory, and some roasted corn; very little coffee.
16. *Celebrated Jamaica.* Very little coffee, principally chicory.
17. *Finest Berbice Coffee.* About one-half coffee, much chicory and some wheat.
18. *Splendid Turkey Coffee.* About one-half coffee, the rest chicory.
19. *Fine Plantation Coffee.* One-third coffee, the rest chicory with a little roasted corn.
20. *Beautiful Jamaica Coffee.* Two-thirds coffee, the rest chicory, with a little corn.
21. *Finest Java Coffee.* Half coffee, much roasted corn, with a little chicory.
22. *Superior Plantation Coffee.* Three-fourths coffee, the remainder chicory.

Coffees of Low Price.

23. *Fine Mountain Coffee.* Four-fifths coffee, one-fifth chicory.
24. *Parisian Coffee.* Principally chicory and corn, very little coffee.
25. *Superb Coffee.* The principal part corn and chicory; very little coffee.
26. *Rich Drinking Coffee.* One-third coffee, the rest chicory, with some roasted corn.
27. *Very Excellent Coffee.* One-half coffee, the other mostly chicory.
28. *Delicious Family Coffee.* One-fourth coffee, three-fourths chicory.
29. *Fine Ceylon Coffee.* Very little coffee, a great deal of chicory, with some roasted corn.
30. *Fine Java Coffee.* Much chicory, and some roasted potato; very little coffee.
31. *Coffee as in France.* Principally chicory.
32. *Very Excellent Coffee.* Principally chicory.
33. *Fine Plantation Ceylon.* Nearly all chicory; very little coffee.
34. *Delicious Drinking Coffee.* A large quantity of chicory and much roasted corn.

From an examination of this table, it appears—

1st. That the thirty-four coffees, with three exceptions, were adulterated.

2nd. That chicory was present in thirty-one instances.

3rd. Roasted corn in twelve.

4th. Beans and potato-flour, each in one case.

5th. That in sixteen cases the adulteration consisted of chicory only.

6th. That in the remaining fifteen samples, the adulteration consisted of chicory, and either roasted corn, beans, or potatoes.

7th. That in many instances the quantity of coffee present was very small: and in others, not less than one fifth, fourth, third, half, and so on of the whole article.

From calculations which we have made, we are satisfied that the gross aggregate of the adulterations detected did not amount to less than one-third of the entire bulk of the quantity purchased. Now, on referring to the Revenue Returns, we find that the amount derived from the duty on coffee for 1849, was £609,632 3*s.* 11*d.*, an amount which we have no hesitation in saying might be increased, by vigilance in the detection of the adulteration of this important article, and punishment of the fraud when detected, to very nearly £1,000,000.

We observe that for 1850 the duty amounted to only £642,519 10*s.* 9*d.*, showing a falling off, in spite of increase of population, of upwards of £67,000 as compared with 1849, and which deficiency is doubtless mainly due to increased adulteration.

The Adulteration of Coffee, considered Dietetically and Medicinally.

The coffee-berry is a seed, and, like seeds in general, it contains the active principles, in large proportion, of the plant from which it is procured, and especially the essential oils.

The beverages which are more extensively employed amongst mankind than any others are made from tea and coffee, to the use of which they have been directed by long experience of the beneficial properties possessed by each of these articles.

Now a remarkable discovery of modern chemistry has been to show that the active principles of these two substances, apparently so dissimilar,—viz., "theine" and "caffeine,"—are one and the same body, a highly nitrogenized substance, possessed of extraordinary influence on the nervous system. It is thus seen how correct has been the almost universal practice of mankind in this matter—a practice not based on science in the first instance, but resulting solely from experience.

Chicory, on the contrary, is the root of a plant; now roots in general, are remarkable rather for nutritious properties than for any active or medicinal qualities, and of this we find a very sufficient explanation, in the fact of their exclusion from light and heat, the great agents in the elaboration of all the more active organic principles.

The cells of the chicory-root, unlike those of the coffee-berry, do not contain any essential oil, and the plant, moreover, is wholly destitute of the active principle of coffee—viz., caffeine, and is described as somewhat resembling in its medicinal properties, taraxacum or dandelion, and as being slightly tonic, but chiefly aperient; these properties, however, are no doubt almost entirely destroyed by roasting.

It is therefore obvious that *chicory root is no substitute for coffee*, since it so completely wants the rich and peculiar fragrance, and the invaluable stimulant qualities, of that berry.

Of the inferiority of chicory the observer may easily convince himself by preparing hot infusions of chicory and coffee separately, and then carefully contrasting their more obvious properties: the one has little or no fragrance, a sweetish and mawkish taste, and is dark-coloured, thick, and glutinous; the perfume of the other is rich and exhilarating, the taste agreeable, and the liquid bright and transparent.

If, however, the employment of chicory be deemed desirable, either by itself or in combination with coffee, let it be sold openly and separately under its own name, and at *chicory prices;* but it is an unjustifiable imposition on the public to sell under the appellations, Ceylon, Berbice, Costa Rica and Mocha Coffees, a mixture of which very frequently coffee constitutes the smallest portion.

The adulteration by means of roasted corn, beans potato, and coffee-colourer, are altogether indefensible, since the only thing in common between these and coffee is the colour which they yield on infusion or decoction.

Some years since, roasted corn, principally rye, was largely sold, and employed to make a beverage, which, by a fiction, was dignified with the name of coffee; the chief argument, independent of price, urged in favour of it, was its supposed nutritive properties.

When it is recollected that the starch of roasted corn is nearly all reduced to the condition of charcoal, it will at once be perceived that its nutritive qualities cannot be very great, and that a single mouthful of wholesome bread probably contains more nourishment than a dozen cups of a beverage made from roasted corn.

Although "Roasted Corn" is now no longer sold openly, yet, as we have just seen, the grocer has not forgotten it, or failed to avail himself of it for his own benefit, but to the disadvantage of the public.

The adulteration of coffee by substances so cheap and, for the purpose, worthless as these, is therefore a gross fraud, requiring emphatic condemnation, and, when known to be practised, meriting exposure and punishment.

Hints to Coffee-Drinkers.

It will not be an inappropriate conclusion to this communication, if we offer a few brief directions on the subject of the preparation of the beverage coffee.

Thus every person who desires to have good coffee should attend to the following points.

Except of tradesmen of unquestionable integrity, he should never buy ground coffee, but should procure the roasted berry, in choosing which, care should be taken to notice that it be not too dark, for if so it has been too much roasted, and some of its active properties have been injured or destroyed. It should be ground to rather a fine powder, (but not too fine,) as this, by setting free the essential oil contained in the cells, allows more readily of the action of water upon it; when reduced to powder, it should be placed immediately in a tin canister; lastly, an *infusion*, and not a *decoction*, of the berry should be made, as during the process of boiling, the active principles, especially the delicate aroma, are in part dissipated. By attending to these directions, not only will good coffee be obtained, but "a heavy blow and great discouragement" inflicted on the adulterators of coffee.

Adulterations, how distinguished.

To sum up briefly. The several adulterations may be distinguished by the following characters:—

The adulteration by *chicory*, by the size, form, and ready separation of the component cells of the root, as well as by the presence of an abundance of spiral vessels of the dotted form.

That by *roasted corn*, by the size, form, and other characters, as already described, of the starch granules, of which the grains are principally composed.

That by *beans*, also by the form, &c., of the constituent granules of starch.

That by *potato*, by the large size and ready separation of the cells of the cellulose, as well as by the fibrous markings on their surfaces.

Lastly, the adulteration with *burnt sugar*, by the tests proper for grape-sugar.

By attention to the above particulars, the principal adulterations to which coffee is liable may be detected with facility and certainty. Other means, however, for the discovery of certain of them, have been pointed out, and which we shall now consider.

Thus, it has been stated, that if coffee containing chicory be shaken up with cold water in a wine-glass, it will float, while the chicory will sink to the bottom, and this, on a repetition of the trial, we have found to be correct to a very great extent, but not entirely so; in many cases part of the coffee subsides with the chicory, and a portion of this rises to the surface with the coffee, and after the lapse of a few minutes, in general both coffee and chicory fall to the bottom, so that in this way we are not able to separate the two substances completely the one from the other, and therefore are unable to determine exactly the quantity of each ingredient of which any sample professing to be coffee is made up, although we can estimate very nearly the proportion of each actually present. It is best not to shake the suspected coffee up with the water, but to place it gently upon the surface; it is also advisable to experiment with powdered chicory and coffee separately in the first instance. The reason why the coffee floats upon the liquid is to be found in the quantity of essential oil which the berries contain, which makes them lighter than the water, which they at the same time repel; on the other hand, it is the absence of this oil which occasions the sinking of the chicory root. In repeating these experiments, it will be observed that the water to which coffee alone has been added, becomes scarcely coloured for some time, while that with the chicory, in less than a minute, assumes a deep brown tint.

It is of importance to know, however, that this test is almost equally applicable to roasted corn as to chicory.

It has been further stated, that the presence of roasted corn may be detected by the blue colour produced on the addition of a solution of iodine to the cold decoction. We have not found this to be the case exactly, for on adding iodine to decoctions of five different coffees ascertained to be adulterated with roasted corn, the liquids did not become blue, but almost black, with a tinge of brown or olive. This appears to arise from the obscuration of the blue developed by the iodine, by the rich colouring matter of the chicory —a proportion of which almost always accompanies the adulteration with corn. This test, however, is still very useful, although it does not give rise to a colour which can be called blue. It should be known, also, that solution of iodine, added to a cold decoction of chicory-root, deepens the colour very greatly, we presume owing to the presence of a small quantity of starch; the increase of colour is never, however, so considerable as when flour is present.

It is to be observed that no exact idea can be formed in this way of the quantity of starch contained in the adulterated coffee, because the greater part of it is charred, and therefore gives no reaction with iodine.

With these explanations the above tests will be found very useful to those who have not a microscope at command.

In searching for roasted corn in coffee with the microscope the fragments, before being submitted to the object glass, should be well broken up with the points of needles.

We have now considered all the more important adulterations to which coffee is subjected; it has been stated, however, that the berry is sometimes imitated; but of this we have no positive evidence. Once, however, there was forwarded to us a sample of coffee, containing numerous stones of about the size and colour of roasted coffee-berries.

The next report will be on

SUGAR:

ITS IMPURITIES AND ADULTERATIONS.

Encouragement to Science in Spain.—The Queen of Spain has just decided, upon the suggestion of the Minister of Public Instruction, that four young professors of the Universities of Madrid should be sent to France and Germany, to become acquainted with the progress which mathematics, the natural and physical sciences, have lately made.

ON MEDICAL EDUCATION IN PRUSSIA.

Medicine and surgery are taught exclusively in universities; of these there are six in the kingdom—viz., Berlin, Breslau, Bonn, Halle, Königsberg, and Greifswald, and in connection with these academical establishments are hospitals where regular clinical instruction is given. A young man who wishes to commence the course of medical studies, must, in order to be admitted, produce what is called *Testimonium Maturitatis*, which document is obtained after an examination which comprises the ancient and modern languages, Mathematics, Natural History, General History, and Geography.

The medical studies must be carried on for four years, and these may be spent at any of the above-mentioned universities, or at some such academical establishment in Germany. There is no regular and settled course, (as regards attendance on lectures;) every one attends whichever professor he chooses, but the usual rotation is about as follows:—Supposing a student begins in the summer half year, (which lasts from Easter to the 15th of August,) he will probably attend the course of lectures which is called in German universities—Cyclopædia of Medicine, or Medicinische Propædeutick. This course, (a two hours' lecture twice a week) seems to us an extremely useful one, and might very advantageously be introduced into this country. The professor takes a general survey of all the branches of the medical and allied sciences, and explains to the beginner, one by one, what they consist of, for what purpose they form part of medical studies, in what manner they may best be acquired, and in which order they should be studied. We regret such a course does not form part of the lectures delivered in Great Britain; for we recollect well how slowly and gradually, in the first year of our pupilage, the obscure meanings of pathology, therapeutics, materia medica, &c., became intelligible, and how gladly we would have hailed the kind voice that would have singled out the various parts of which the edifice of medical education is composed, and explained what they really are. Such a bird's eye view would be extremely useful while the young man stands on the threshold of the school. He will likewise attend Osteology, Zoology, Botany, (with excursions in the country,) Inorganic Chemistry, and Logic. Second half year, (winter, from the 15th of October to Easter:) Anatomy, (with dissections,) Organic Chemistry, Psychology. Third half year: Physiology, Comparative Anatomy, Physics, Mineralogy. Fourth half year: Dissections, Materia Medica, General Pathology, and Therapeutics. Fifth half year: Special Pathology, and Therapeutics, Surgery, and Pathological Anatomy. Sixth half year: Clinical Medicine and Surgery, Midwifery. Seventh half year: Clinical Medicine, Surgery, and Midwifery, Forensic Medicine. Eighth half year: Clinical Medicine, Surgery, and Midwifery, History of Medicine. Besides these various branches, the following must be likewise scattered over the foregoing half years:—Practical Chemistry, the Use of the Microscope, Surgical Operations and Bandages, Obstretical Operations, Practice of Auscultation and Percussion.

When the student has completed these four years of study, he is admitted to an examination for the degree of doctor of medicine, but as a preliminary to this, he must submit to what is called the *Tentamen Philosophicum*, which consists in examinations in philosophy (logic and psychology) and the natural sciences, (zoology, chemistry, physics, botany, and mineralogy.)

The examination for the degree of doctor, or *examen rigorosum*, is carried on in the Latin language, and consists of two parts—first, an oral and written one; and another, exclusively oral. These comprise all the branches of study just enumerated. When this examination has been satisfactorily passed, the degree of doctor of medicine is granted, after the public defence of a thesis, written in Latin. The title thus conferred is *doctor medicinæ et chirurgiæ*, to which is added, in some universities, *artis obstetricæ*.

This diploma does not give the bearer the right of practising in any capacity in the Prussian states; the privilege of practice must be obtained by what is called the state examination, which lasts about six months, and must be undergone at Berlin. Permission is, however, sometimes granted, to pass this examination either in Breslau, Königsberg, or Coblentz.

This state examination is divided into six parts, separated by a few weeks; and the principal aim of this ordeal is to test the practical capacities of the candidate. The first examination is on anatomy: it comprises the demonstration of the *situs viscerum* of one of the cavities of the human body, and that of a particular bone and viscus; as likewise the putting up of a preparation illustrating some part of the nervous system. These subjects are chosen by lot, and must be treated without any preparation. The second examination is on operative surgery, and consists of the reading of an essay, composed some time before, on some important operation, and the performance of the same on the subject. Further, the candidate is expected to lecture on an operation, designated by lot, to perform the same on the subject, and likewise to speak concerning some fracture or dislocation; after which he must apply the necessary apparatus and bandages upon the model. The third examination comprises clinical surgery, and is conducted in the following manner:—The candidate is entrusted with two surgical cases, which he must examine within a fixed time. He must then, whilst locked up, write a complete history of the case, establish the diagnosis and prognosis, point out the treatment, and likewise watch the case for a fortnight. To conclude this division, the candidate is presented with two cases, with which he must go through the same ordeal as above, but extempore, and in the presence of a committee appointed for the purpose. The fourth examination is on clinical medicine: here the candidate must manage in the same manner as described for surgical cases, but the essay must be written in Latin, and the whole of the examination carried on by the bedside is in the same language. At the end of this examination, a certain number of drugs are placed before the candidate, of which he must give the highest, medium, and lowest dose; and write prescriptions, embodying these medicines. The fifth examination is the oral one, which is considered as the conclusion. It comprises the following subjects: Practice of Medicine, Surgery, Theory of Medicine, History of Medicine, and natural sciences in general.

By satisfactorily undergoing these five examinations the candidate obtains the privilege of practising in any part of the Prussian dominions. Those who wish to practise midwifery must pass a sixth examination. This consists of a written composition on obstetric subjects, chosen by lot, and to be drawn up with closed doors; of the examination of pregnant women; of various operations upon the model; and finally, of an oral examination, which concludes the whole. Practitioners who aspire to the office of physician to a court of justice must undergo a special examination.

Such is the education and the examination of the great majority of Prussian practitioners; but there is another class of medical men, whose existence is of old standing, but for whom new regulations were made, about thirty years ago—viz., the *surgeons* of the first and second class. These are allowed to attend lectures, without passing the matriculation examination, and do not obtain the degree of doctor. The first class of these surgeons may practise medicine in those places where no licensed doctor of medicine has settled; but this inferior grade of medical men is likely to be completely abolished by a new medical law which probably will soon be enacted. The minor operations of surgery will then be performed by the class of men called keepers of baths, who even now bleed, cup, &c.; and these will likewise act as assistants to physicians.

The army surgeons are partially educated in the Medico-Chirurgical Institution of Frederic William, in Berlin, in which seventy-two students are educated for the space of four years. During this time they attend the lectures at the University of Berlin, whilst they board and lodge in the institute. After these four years, they take their degree of doctor, pass the state examination, and are obliged to serve in the army for at least eight years. There is, however, a lower class of military medical officers, taken from the above-mentioned surgeons of first and second class.

Apothecaries are restricted to the dispensing of the prescriptions of practitioners; they likewise undergo a theoretical and practical state examination, after having attended appropriate lectures at the university for one year. The midwives are taught for one year also, at one of the great maternity charities of the country, and are obliged to pass an examination after the completion of that period. Veterinary surgeons are educated at the Veterinary School at Berlin, for about three years, or three years and a half; after which, they are admitted to the state examination.

Students from England, or any other country than Prussia, may attend lectures and the hospital practice without matriculating; they not looking forward to an examination in the Prussian states. It is sufficient to pay about £1 14*s*. for six months' hospital practice, either surgical or medical; and about 17*s* (or double that amount, according to the subject) for any half yearly lecture. To those who do not wish for any certificates from physicians or surgeons, and who only come for a few days, the access of the hospital and lecture-room is permitted, upon their wish being personally made known to the professors. Subjects either for anatomy or practical surgery are not paid for at all, the cost being included in the demonstration fees.

The Medical School of Berlin boasts of Müller, for Physiology; and Schönlein, for Medicine.

Miscellaneous Correspondence.

ON THE DISUSE OF INSTRUMENTS OF RESTRAINT IN LUNACY,

WITH AN ACCOUNT OF THE PROCEEDINGS FOR THIS PURPOSE IN THE LINCOLN LUNATIC ASYLUM.

[LETTER FROM SIR E. H. BROMHEAD, BART.]

To the Editor of THE LANCET.

SIR,—It is a matter of gratification to find that the disuse of instrumental restraint in the treatment of the insane is now so far confirmed, as a principle, that the history of its rise, progress, and establishment, has become a matter of interest. No individual can exclusively claim the merit. To Pinel and others, on the continent, every honour is due; but they never made any approach to the total disuse of instruments.

At the Lincoln Asylum, the earlier system was restraint, under the most oppressive and revolting forms. It was not in any way disguised, but was rather considered in practice a proof of care, vigorous management, and rigorous precaution.

In October, 1821, the boards, under the advice of Dr. Charlesworth, the present senior physician, began to attack this system, on the principle of attempting to

ON A NEW THERAPEUTICAL AGENT—SOLUTION OF PHOSPHATE OF QUININE AND IRON.

To the Editor of The Lancet.

Sir,—I have much pleasure in directing the attention of the profession to the therapeutical employment of a compound, formed by phosphoric acid, pure quina, and hydrated peroxide of iron—solution of phosphate of quinine and iron. It was devised by me during the past year, and from an extensive trial of it, since that time, I am enabled to recommend it as a remedy likely to prove highly serviceable in those cases indicating the use of such a combination.

As much uncertainty exists respecting the chemical relations of phosphoric acid, and the different basis, it is necessary to observe, that it is to the therapeutical and not the chemical value of this compound that I attach importance.

I shall avail myself of the earliest opportunity of making further observations on this subject.

I am Sir, yours, &c.,
T. Cattell, M.D, M.R.C.S., &c.

AMMONIO-ACETAS FERRI AND SYRUPUS FERRI ACETATIS.

To the Editor of The Lancet.

Sir,—I have for some time used the above preparations of iron in my practice, and as I have found them to be very efficacious in cases where iron was required, I beg to lay the formulæ for their preparation before your readers. The syrup I consider to be well adapted for children; to adults I usually give them in combination.

I am, Sir your obedient servant,
Alfred Geo. Roper.

Ammonio Acetas Ferri.—Dissolve one drachm of iron wire in half an ounce of hydrochloric acid, mixed with an equal quantity of water (by measure;) then add half a gallon of water, and precipitate with five ounces of liquor potassæ; set aside for twenty-four hours: draw off the supernatant liquor with a syphon; fill again with water, and repeat the process a third time. Lastly, collect the precipitate on a linen filter; dissolve the oxide thus prepared in two ounces of strong acetid acid, and make up the measure to ten ounces with distilled water; set aside for twenty-four hours, and filter. To every twenty ounces of the filtered liquor add half a drachm of strong liquor ammoniæ. Dose, ten minutes to half a drachm.

Syrupus Ferri Acetatis.—Dissolve two pounds of sugar in ten ounces of water, in a water-bath; to the syrup, whilst hot, add eleven ounces of the acetate of iron, prepared as above (without the ammonia;) when cold filter through paper. Dose, twenty minutes to one drachm.

EMERGENCE FROM THE SURFACE OF THE BODY OF PINS OR NEEDLES FORMERLY SWALLOWED.

To the Editor of The Lancet.

Sir,—In the "Mirror of the Practice of Medicine and Surgery" in the London hospitals, the author states that he is inclined to side with those sceptics who disbelieve the stories of the appearance of pins and needles on the surface of the body after they have been swallowed. I have at present under my care a case, the history of which will, I think, prove interesting, and go some way toward establishing the possibility of such occurrences. It is that a of young woman from the surface of whose body I have lately removed twenty-four needles, and two more have since appeared. The needles were uniform in size, and gave rise to no unpleasant symptoms until near the surface, at which time the patient complained of a sensation of itching. The greater number were extracted from the legs and thighs, and the rest from the chest and abdomen. They had the appearance of having been in the body for some time:, and after a great deal of questioning, the girl confessed, that she had some time previously (specifying the exact time,) swallowed a paper full of needles, twenty-six in number! The history of the case, in my opinion, proves beyond doubt, that there may be some truth in the extraordinary stories of which the writer of the "Mirror" professes to be a disbeliever.

I am, Sir, your obedient servant,
Henry Bencraft.

A CURIOUS "CASE."

To the Editor of The Lancet.

Sir, I have lately received a communication from Dr. White, of the 13th Bengal Cavalry, which may prove interesting to the readers of The Lancet. He states, "that a fowl belonging to an officer stationed at Peshawer, laid an egg, so singular in appearance, on account of its great length (four inches) and narrowness, that he determined to preserve the shell. For this purpose he punctured the ends, intending to remove the interior by breathing forcibly through it; he was surprised to find the needle strike against a hard substance, and on shaking the egg, he felt the more assured that it must contain something abnormal. On breaking the shell another perfect egg was found with a hardened shell, containing yolk and albumen, as in the first."

We read of two eggs united in the ends by the membrana cutiminis, and also of others containing a blasted ovum, double or triple yolks, &c., but I believe this is the only authentic record of a perfect egg with hardened shell being found in the interior of one also normal; and it would seem to determine points on which some difference of opinion has existed among physiologists. Firstly, it proves that the shell of the egg is hardened without being exposed to the atmosphere, although it has been believed that the induration of the earthy deposit depends on the absorption of carbonic acid from atmospheric contact; as the exterior shell was perfect, this explanation can no longer be considered satisfactory. Secondly, that the membrana testæ, with its earthy envelope are both products of the oviduct, and that it is not the case, as has been affirmed by one author, that the shell only is an uterine secretion.

Yours, obediently,
W. H. Ashley, M.D.

MR. SYME ON STRICTURE OF THE URETHRA.

To the Editor of The Lancet.

Sir,—During the last twelve months I have endeavoured to answer the objections, advanced from various quarters, against my proposal for the remedy of obstinate strictures of the urethra; but finding falsehood and calumny resorted to, for the purpose of creating a prejudice which may limit the good effects of this treatment, I think it will now be expedient to counteract such injurious impressions, by making the results of my practice more extensively known. I have therefore to beg that you will permit me, through the medium of your pages, to relate a succession of cases, which will, I trust, satisfy every mind open to conviction, and silence the cavils of ignorance and malice.

The positions which I have endeavoured to establish are—1st, that division of a stricture by external incision upon a grooved director, passed fairly through the contracted part, is an operation free from all ordinary sources of danger. 2nd, that by this procedure, strictures which resist every other mode of treatment, and are apt to resent seriously even the gentlest use of simple bougies, may be speedily removed, so as to allow instruments of the largest size to be introduced without difficulty or inconvenience; and 3rd, that the relief thus afforded is more permanent than that which can be obtained in any other way.

In support of the first position, I hope it will be sufficient for me to state, that I have performed the operation in thirty-five cases *without a single fatal result.*

In regard to the second and third positions, I trust that such facts as the following, and similar ones, of which I can send you an ample supply, will be deemed satisfactory evidence.

I am, Sir, yours, &c.,

Edinburgh, January 20 1851. JAMES SYME.

CASE 1.—J. McM——, aged 27, a farmer, from the neighbourhood of Belfast, recommended to my care by Dr. Moore of that place, was admitted into the Royal Infirmary on the 8th of November, 1850, on account of stricture of the urethra, under which he had laboured for the last ten years. He attributed the disease to a bruise of the perinæum, attended with hæmorrhage from the urethra, which had been sustained from his having been thrown with great force upon the shoulders of a horse he was riding. The symptoms of stricture succeeded, and were followed by an abscess of the hip, with fistula in perineo. Through the use of bougies this opening closed; but as the stricture remained, he four years and a half ago was repeatedly burnt with caustic, with the effect of rendering the contraction tighter than it had been previously. The permanent introduction of catheters, which were left in for a week at a time, was then tried without any benefit, but with the further aggravation of an inflamed testicle. Fomentations and leeches were afterwards employed so assiduously, that the patient declared he had applied no fewer than a thousand of the latter. He had repeatedly suffered from retention of urine, which required the catheter for his relief. In these circumstances, feeling unable for any active exertion, or even to exist with comfort and safety, he had come from Ireland very desirous of obtaining relief, and willing to suffer any treatment that might be considered likely to afford it.

Upon examination it was found that there were three strictures, one very near the orifice of no great tightness; another very tight, about three inches back; and a third no less so, between five and six inches from the orifice. Bougies of the smallest and second smallest size were repeatedly introduced into the bladder, without the slightest force, or the effusion of a single drop of blood. But the patient, instead of experiencing any relief from the attempts thus made to effect dilation, complained of the symptoms being greatly aggravated, so that he could void his urine only by drops, with much pain and straining.

On the 18th, a grooved staff of sufficiently small size was passed through the anterior stricture, and a subcutaneous incision having been made at the fore part of the scrotum, the contracted part of the canal, which could be felt distinctly much thickened and indurated to the extent of half an inch, was freely divided. The staff was then passed through the posterior stricture, which was divided by external incision in the perinæum. A No. 7 silver catheter was then passed into the bladder, and retained by the requisite fastenings. There were only a few drops of blood lost during the operation, and but little afterwards.

On the 20th the catheter was removed. On the 24th the patient expressed himself as quite well. Only a few drops of water escaped through the wound in the perinæum, but in the situation of the anterior stricture there was an abscess the size of a hazel nut, which was evacuated by incision.

On the 27th the urine had ceased to pass at all by the perinæal, but continued to issue through the anterior opening. A full-sized bougie was passed without difficulty into the bladder.

On the 9th of December the anterior opening was quite closed, and on the 17th the patient was dismissed, declaring that he felt completely relieved from all the distressing symptoms under which he had previously laboured.

COD-LIVER OIL IN CASES OF EMACIATION FROM LONG-CONTINUED MANIA.

To the Editor of THE LANCET.

SIR,—Permit me to solicit, through the medium of your pages, the attention of medical gentlemen to the use of cod-liver oil in those cases of protracted mania in which the patient becomes very much emaciated, and presents the appearance of a person in an advanced stage of phthisis, even when the lungs are free from tuberculous disease. Without *at present* advancing my own experience in this matter, I am anxious to solicit a trial of this medicine in the above affection by the superintendents of various lunatic hospitals, as also in those stages of general paralysis where marasmus supervenes upon obesity, but especially in the former cases: and I do so from the conviction, that the observation of one individual is rarely sufficient to establish a general principle in therapeutics, not only from the scantiness of his facts for a safe induction, but because the facts he may possess are often perceived through a distorting medium, and thus require the adjusting influences of other men's experience. Drachm doses of this oil, mixed with peppermint water, by means of tragacanth powder and sugar, can generally be administered to patients without much difficulty. The dose many be increased at the discretion of the practitioner.

I am, Sir, your constant reader,

THE SUPERINTENDENT OF AN ASYLUM.

Jan. 18, 1851.

THE INCOME-TAX AND THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—That admirable fellow, *Punch*, says,—"The window-tax, the paper-tax, and the malt-tax are the three candidates for repeal." To these I venture to add *a fourth*—the "income-tax," that unconstitutional, inquisitorial, unkind, and unjust tax, which presses upon all persons of a limited income. For example, upon officers receiving half-pay,—the brave defenders of their country. The half-pay of a commander in the navy, and a major in the army, is, I believe, about £155 per annum; out of this they have to pay, for income-tax, £4 10*s.* 5*d.* Can this be fair, or just? A person whose income is £149 a year pays nothing, while another with £159 a year, pays £4 7*s.* 6*d*; so that the one receiving £149 a year is better off than the other receiving £150. What I contend for is this,—it ought to be a tax upon property, and not upon income; or that the latter should be modified, that, at all events, the tax, should originate only from income beyond £160; thus, that persons with £160 a year should pay upon £10 only, or 5*s.* 10*d.*, instead of £4 13*s.* 4*d.*

The manifest injustice of the income-tax more particularly concerns professional men and artists. Those hard "workers," whose incomes are uncertain, and dependent upon causes over which they have no control, are called upon to pay income-tax at the same rate as the "drones," who do nothing, and whose property is safely invested at three, four, or perhaps five per cent. Thus a professional man with a wife and large family, who returns £500 a year income, pays £14 11*s.* 8*d.* for income-tax,—the same as his independent, idle neighbour, who is, perhaps, a bachelor, and a miser. Again, let us take the case of a London physician, *without private means*, (and this will apply to other professions,) who returns £1000 a year income: he is called upon for £29 3*s.* 4*d.* income-tax, although he already pays about £40 a year for assessed taxes,—being from necessity obliged to keep a carriage, a pair of horses, and two men-servants, at an expense of, probably, £300 per annum. Deduct the £29 3*s.* 4*d.*, the £40, and the £300 from £1000, and there remains £630 16*s.* 8*d.* for rent, cesses, house-keeping, education of children, tradesmen's bills, wages of servants, charity, and incidental expenses. Now, if the physician's practice, his faculties, or his health fail, he has no resources to fall back upon; if he dies, his widow and family are left without means, perhaps in want; while his opulent neighbour, who returns £1000 a year income, pays the same income-tax—viz., £29 3*s.* 4*d.*; and at his death, leaves £20,000 at 5 per cent., £25,000 at 4 per cent, or the enormous sum of £33,333 6*s.* 8*d.* at 3 per cent!

I am, Sir, your obedient servant,
JOSHUA WADDINGTON, F.R.C.S.

Margate, Jan. 21, 1851.

MATERNAL IMPRESSIONS AND THE FŒTUS.

To the Editor of THE LANCET.

SIR,—Some letters having appeared in your columns respecting the maternal influence of the fœtus in utero, which has been denied by Dr. Richards, with every semblance of truth in his arguments, and re-asserted by other practitioners, I am induced to lay before your readers the following facts, as they have some bearing on the point at issue.

About two years ago I attended a patient in labour with her first child. She is a very nervous, hysterical woman, and easily alarmed; consequently precisely the subject for extraordinary influence and impressions. During her pregnancy, as far as I could learn, her health was good; at least so far so, that I was not once called upon for professional assistance. Her labour was tolerably speedy, and the presentation natural. On the birth of the child taking place, she anxiously inquired of me if there was any mark of deformity. A careful examination enabled me to assure her that nothing of the kind existed, at which she expressed herself as greatly relieved and highly gratified. With considerable difficulty I managed to get from her, that she had been much alarmed one day when she went to the water-closet by finding a large rat in the basin; she had ever since brooded over this, and her mind was constantly occupied with the dread that her child would be deformed in consequence. The special malformation she anticipated was, that it would have a *rat's head.* I remonstrated with her for having concealed her fear from me, as I should have endeavoured to calm her mind by assurances and reasonings to the contrary; but her husband said that he was convinced that nothing but the birth of a well-formed, normally-made child would have any influence in changing her opinion.

So far, then, as one case may be taken as an example for a rule, we have here a nervous, hysterical female, with a very impressionable mind, fully under the influence of alarming causes at all times, dwelling for months on a cause of dread and disgust,—one at all times most likely to alarm a timid woman,—her thoughts constantly occupied by one besetting idea, that her child would and must have a peculiar deformity, connected with the cause of the fright she had sustained, and yet not the slightest mark or abnormality existed when the child was born. I may add that the mother was threatened with puerperal mania soon after her confinement.

I am, Sir, your obedient servant,
OBSTETRICUS.

PRESSURE OF THE INCOME TAX ON PROFESSIONAL MEN.

JANUARY and February are distinguished in the calendar as the months when income is ascertained, bills paid, and the pressure of domestic financial difficulties most sorely felt. These are the months, too, when the Chancellor of the Exchequer is supposed to be preparing his budget, and arranging the financial proceedings of the coming session in Parliament. It is as certain as leaves in autumn, to find certain classes clamouring for the relief of special taxes. At the present time, meetings are daily held, some to protest against the duty on paper, others against the malt-tax, window-tax, tea-duty, coffee-duty, and other items of taxation. A few are self-denying enough to demand the reduction of the national debt, instead of the reduction of the immediate taxation.

If we read the signs of the times rightly, there will certainly be some important reductions in the current year. We are warranted in believing this, from the present opulence of the exchequer, the increase of the revenue and the common expectations of the benefits to be derived from the world's exhibition. We would suggest, therefore, that medical men should join in making their rights and desires known to Sir CHARLES WOOD and the House of Commons. As medical men, we have a right to be relieved from the unjust pressure of the INCOME-TAX upon professional incomes. The injustice of the present income tax towards the medical profession, and especially towards the great body of surgeons in general practice, is universally admitted. A fortnight ago, we felt aggrieved that the *Times* newspaper should have been the vehicle of what was intended as a mean and malicious attack upon medical incomes. We were the more rejoiced to see the case of the county medical man *versus* the income-tax put forth in a leading article of the same influential journal, in a manner to defy cavil or contradiction. It can be shown that it is a monstrous injustice to tax the precarious income of the professional man, depending upon the continuance of health, intellect, and life, in exactly the same proportion as an income derived from the land, which may last as long as the island remains above the sea; or the funds, which must continue as long as the national honesty or solvency. We know of no surer mode of obtaining a pecuniary boon for medical men, and one to which they are most justly entitled, than by a reduction of the tax upon professional incomes. We are persuaded that by a moderate effort on the part of professional men, the legislature would be obliged to make an honest and equitable classification of incomes for the purposes of taxation. We see the profession making just now great exertions in establishing benevolent funds, and we give these institutions our cordial co-operation and support. It is, however, our conviction, that were the same energy, talent, and labour, devoted to this one question of the equitable arrangement of the income-tax, so as to relieve professional men, the question would be carried, and that in the coming session. This would put many thousands per annum in the professional purse for purposes of life assurance, the education of children, and other equally important objects.

We do therefore most fervently trust the profession will not lose the present opportunity, but prepare to exert themselves. We have no doubt that in the United Kingdom there are 20,000 professional men who have in the present moment either the bill or the receipt for the last half-year's income-tax close at their hands, and that every one of them feels the matter both a hardship and an injustice. If only one quarter of this number, within the present month, were each of them, to give a sheet of note-paper, an envelope, a penny stamp, and six lines of writing, complaining of the unjust pressure of the income-tax, and praying for its equitable adjustment, and send it to Sir CHARLES WOOD, Bart., Downing-street, Westminster, such an impression would be made on the Chancellor of the Exchequer as could not easily be forgotten. If, in addition to this, the same number of letters were sent through the post to the representatives of the writers in parliament, the thing would be accomplished. Is not so great a boon worth such an inconsiderable trouble?

New Inventions

IN AID OF THE

PRACTICE OF MEDICINE AND SURGERY.

MR. JULIUS JEFFREY'S *Patent Respirators.*

WE have received a complete set of these instruments, which, beyond all competition, are the most efficient guards against the introduction of a chilling atmosphere into the air-passages which we have yet seen. These instruments in fact, with reference to the objects which they are intended to fulfil, may be pronounced perfect. They really cannot be too highly commended. They are intended to be affixed over the mouth or nose, either separately or in conjunction, and are accordingly named oral, nasal, and orinasal. One is called the "hand respirator," which is meant for temporary use only, being held unattached over the nose and mouth. This is a guard which, we think, might be adopted with advantage by physicians and others, whose duties call them into the presence of fever patients. The whole series are of the most delicate workmanship, consisting of the finest silver and other metal wirework, faced with silk or light woollen-cloth, and fastened round the head by elastic straps, or otherwise by a cord, as in one of the respirators which is manufactured expressly for the working-classes, and is sold at a very reduced price. The nasal respirator is a droll-looking apparatus, but intended chiefly to be worn during sleep, and we learn that, by its aid, persons with very irritable air-passages and lungs are enabled to secure the advantages of copious ventilation, by not eschewing a large bedroom, filled with cold air. Many of the benefits to invalids with laryngeal and chest diseases, supposed to accrue from the climate of Southern Europe, might, we are ready to believe, be secured by the use, during the English winter, of such respirators as those now before us;—with the additional and inestimable privilege to the patient, of not being driven away from his friends in the fallacious hope of a cure. Mr. Julius Jeffreys, who is a member of our profession, deserves high credit for his scientific and elegant invention.

Water and Air Cushions and Matrasses. Hooper, London.

SOME time since, the elastic water cushions of Mr. Hooper, of Pall-mall East, were submitted to us for inspection. More recently the inventor has extended the size of these cushions so as to admit of their supporting the whole trunk; this is effected by inserting a series of cells, which keep a level surface, and afford a resisting power, or fulcrum, so that patients can make any movement or change in their position, whereas a patient on an ordinary water-bed can neither change his position nor get off his couch. Being made of india-rubber, without the admixture of cloth materials, leakage is avoided; and Mr. Hooper's cushions have been found to answer very satisfactorily, both as regards the comfort of the patient, and the purposes which are desired to be carried out by the surgeon.

Medical Facts, News, Items, &c.

A CURIOSITY OF MEDICAL LITERATURE.—We lately received from Paris a printed sheet, which looked much like a newspaper, bearing the title of *Medical Gazette.* In casting our eye over it, we found that the English language had been made use of, and here and there murdered in the most cruel manner. The paper, though evidently intended to pass as a periodical, had no date, and was merely a bombastic combination of puffs, crying up a universal remedy for syphilitic diseases, clearly intended for the English market. Just as if we had not enough of our own Morrisons, Holloways, and Culverwells. There is in this quackish prospectus one very disgusting feature—namely, the support which has plainly been given to this secret remedy by practitioners, authors, and learned bodies. Among the latter, the Academy of Medicine of Brussels plays a conspicuous and disgraceful part; and it may easily be imagined how vain-glorious and pompous the charlatan is made by the stupid conduct of the Academy? The memorable meeting, when the nostrum was offered up to the world as an infallible remedy by a society composed of the most distinguished medical men in Belgium, is reported at full length in thousands and tens of thousands of prospectuses, &c., and flung into the face of the medical profession of all countries. We are thankful that in looking at home we do not find such a forgetfulness of duty in any medical body; and though quackery is rife enough in England, and the public are gulled and cheated in all possible manners, we have not at least to blush at such a perversion of legitimate influence as has been exercised by the Academy of Medicine of Brussels.

THE CHOLERA.—The cholera broke out at Mecca on the 30th of September, and only ten or fifteen deaths then occurred per diem. On the 15th of October, caravans of pilgrims coming from Syria, Egypt, and the Yemen, arrived at Mecca, and on that very day 200 deaths from cholera were recorded. On the 16th the pilgrims went to Mount Arasat to attend to the religious rites; the heat was very great, and the disease increased rapidly. In the night, from the 16th to the 17th they went into the valley of Muja, and there killed, according to custom, a large number of sheep, whose carcases being strewed about, with a very high temperature and no wind, fearfully vitiated the air. The cholera then reached dreadful proportions, and on the 18th the whole of the pilgrims, struck with terror, abandoned the valley of Muja and the town of Mecca, and fled in all directions. It appears from the statements which have been published, that on the 16th, 4,000 persons died, 6,000 on the 17th, and 3,000 on the 18th. Nothing is known as to the mortality of the following days; it was, however, said that a great number of dead were lying on the roads leading from Mecca. —*L'Union Médicale.*—The above figures are probably to be looked upon as *oriental* intelligence.

LAW OF LUNACY IN ENGLAND.—We understand that, at the instance of an influential member of the American government, Dr. Forbes Winslow is actively engaged in preparing an analysis of the English law of lunacy. Dr. Winslow is also requested to make any suggestions that may occur to him in the course of the inquiry for an amendment of the said law. We trust, when his labours are brought to a conclusion, that Dr. Winslow will submit the result of his investigation to the British government, in order that they may adopt any valuable suggestions it may contain for an amendment of our own defective laws in regard to the arrest and detention of persons alleged to be insane.—*Morning Chronicle.*

Conversazione at St. Thomas's Hospital.—On Wednesday evening, 22nd instant, a conversazione took place in St. Thomas's Hospital, at which governors of the hospital, friends of the institution, professional men, and students, were present. The great hall of the hospital was crowded, and the audience were evidently in high expectation of the great feature of the evening—viz., a sketch of the history of St. Thomas's Hospital, and of some of the most celebrated persons connected with it, to be given by Mr. South. The long connexion of this gentleman with the institution was a sure guarantee that materials would not be wanting to make the sketch highly interesting, nor were the numerous hearers deceived in this respect.

Mr. South spoke for two hours and a quarter, and took, in his own animated and peculiar way, a rapid survey of the rise and progress of the venerable institution with which he is connected. Beginning, at the very first dawn of the charitable establishment, as founded by Richard, Prior of Bermondsey, in the 13th century, Mr. South showed what influence Henry the Eighth and the Reformation had upon it, and that Edward the Sixth endowed the institution at the suggestion of Bishop Ridley. It would appear that at that time expenditure and income were strictly balanced, as it was proved by the inquiries set on foot by the king that the amount expended had been £2,479 10*s.* 10*d.*, the subscriptions falling only £3 short of that sum. It was at that period the sensible custom of the citizens of London to assist the hospital (which had the charge of a great many children) with various articles in which they traded, as feather-beds, blankets, sheets, &c. &c. There were five surgeons attached to the institution, each receiving £15 a year.

Mr. South was led by his subject to enter largely into the history of the Corporation of Surgeons, and stated that in the reign of Elizabeth, St. Thomas's had three surgeons and one physician, and likewise what were called reversionary surgeons, who stepped into office on the occurrence of a vacancy. Here the lecturer referred to several very interesting autographs of Elizabeth, Cromwell, Charles II., Fairfax, &c., &c., which lay framed on the table; these were letters from these exalted individuals soliciting from the governors the appointment as surgeons of certain of their *protégés.*

Mr. South, in alluding to the custom of the Admiralty, of sending their medical officers for examination at Surgeon's Hall, whence they were classed 1st, 2nd, 3rd, 4th, 5th, and 6th rate, took occasion to animadvert in strong and noble terms on the shameful treatment which assistant-surgeons had been subjected to in her Majesty's ships: he congratulated his ill-used young brethren on the recent victory they had gained, and hoped that full justice would eventually be done to them. The audience responded with enthusiastic applause to this generous defence of the assistant-surgeons of the navy, by the vice-president of the College of Surgeons in England. We would fain follow Mr South in the succession of important documents and racy anecdotes which he brought before his hearers in a very happy manner; but our space is limited, and we must take a leap from the reign of the maiden queen to Cheselden, who, as the lecturer showed, was the first surgeon who broke through the rule of confining anatomical lectures to Surgeon's Hall, and began to teach anatomy independently of the Corporation; for which conduct he was reprimanded, and nevertheless went on in his didactic pursuits.

Mr. South gave a very impressive sketch of the life of Cheselden, Cline, and of Mr. Chapman, forty-three years treasurer of St. Thomas's Hospital: it should not be passed unnoticed, that under the latter gentleman's management of the institution, the yearly income rose from £12,000 at his entrance into office to £26,000 when he resigned. The museum and school, and the noble wards facing Wellington-street, had likewise successively been erected at a cost of £72,000, without any of the comforts of the sick and poor being interfered with. Mr. South concluded by passing in review the various incitements to zeal and application held out to students in the shape of prizes, scholarships, &c., and was heartily and unanimously applauded at the conclusion of his interesting sketch of the history of St. Thomas's Hospital.

Use of Anæsthetic Agents in Ancient China.—Stanislas Julian has found, in examining the Chinese books in the National Library at Paris, the proof that the Chinese have been long acquainted with the use of anæsthetic agents during surgical operations. The extract which he gives is from a book published about the commencement of the sixteenth century, in fifty vols. quarto, and entitled "Kow-Kin-i-tong," "General Account of Ancient and Modern Medicine," and refers to the practice of a celebrated physician, Ho-a-tho, who flourished between the years 220 and 230 of our era. It states, when about to perform certain painful operations, "he gave the patient a preparation of hemp" (hachich,) and that at the end of a few moments "he became as insensible as if he had been drunk or deprived of life." After a certain number of days the patient was cured, without having experienced the slightest pain during the operation. In a subsequent notice he also adds, that the same physician used the hydropathic system as a cure for certain diseases, among others, chronic rheumatism.—*Edinburgh Philosophical Journal.*

Obituary.—Died, on Tuesday, January 21st, at his residence, in Piccadilly, Manchester, R. Thorpe, Esq., F.R.C.S., long one of the most eminent surgeons in that city. He was the son of Mr. John Thorpe, an eminent surgeon, who resided in Manchester for a number of years. The deceased was educated at the Manchester Free Grammar School. He then became a pupil of his father, and commenced that career which in future life was destined highly to distinguish him. Having passed through the usual course of instruction in London, he returned to Manchester, and commenced the practice of his profession. He became connected with the Manchester Royal Infirmary in 1812, and continued to perform the duties which devolved upon him with untiring assiduity until 1849, when he resigned the office of surgeon. He was elected the same day one of the consulting surgeons to the institution, and held that honourable position at his death, in conjunction with his old schoolfellow and attached friend through life, Mr. J. Ainsworth. Mr. Thorpe was distinguished both for professional skill and the benevolence of his character, and unostentatious manner. Able and enthusiastic as he was in the pursuit of his profession, we do not hear that he published anything upon any department of medical science; and though he was possessed of literary tastes, his public appearances as a man of letters were very few indeed. His funeral was to take place on Wednesday last, at Blackley, where the family possess a grave.—*From the Manchester Examiner.*

E. Mitscherlich.

THE LANCET.

A Journal of Medical, Surgical, and Chemical Science and Practice, Criticism, Literature and News.

MR. WAKLEY, M.P., EDITOR. J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

VOL. I. NEW-YORK, APRIL, 1851. No. 4.

A Course of Lectures
ON
SURGICAL MANIPULATION;
EXPLAINING THE USE AND METHOD OF EMPLOYING THE VARIOUS KINDS OF BANDAGES, INSTRUMENTS, AND APPARATUS,

SO ARRANGED AS TO FORM A CONCISE INTRODUCTION TO THE PRACTICE OF OPERATIVE SURGERY.

BY EDWARD F. LONSDALE,
Fellow of the Royal College of Surgeons, Assistant-Surgeon to the Royal Orthopædic Hospital.

LECTURE IV.

OF BANDAGES FOR THE NECK, CHEST, AND SHOULDERS.

Of Bandages for the Neck.

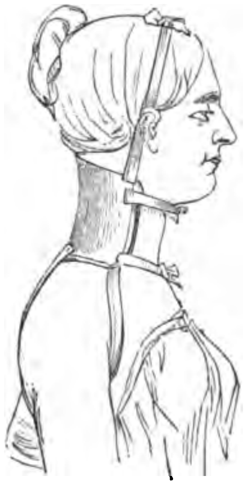
THE region of the neck does not require many special bandages. The principal are those for keeping dressings and poultices on the fore or back part, and for making pressure on the side of the neck after bleeding in the jugular vein, and in the treatment of sinuses, which so often remain after the formation of scrofulous abscesses. It is useful to know by what means these objects can be attained without the fear of the dressings becoming displaced, or the pressure being removed after once applied. The following bandages answer the purpose exceedingly well. They are five in number:—

The simple circular.
Eight-tailed for the back of the neck.
Eight-tailed for the front of the neck.
Figure of 8 for the side of the neck.
Four-tailed bandage for side of the neck.

The Simple Circular for the Neck.

It consists of a few turns of common roller, or of a large piece of linen rag, passing two or three times round the neck, the width of bandage depending upon the extent of surface to be covered. This kind of bandage is only useful in very simple cases, and where the dressings are required more for the middle than the upper or lower part of the neck. The objection to it is, that it is liable to slip. This may be guarded against, to a certain extent, by splitting the last turn of the bandage, and passing the two ends so formed beneath the axilla, and pinning them, either in front or behind, to the edge of the rest of the bandage, by bringing them upwards. It is not necessary to give an illustration of it.

FIG. 30.



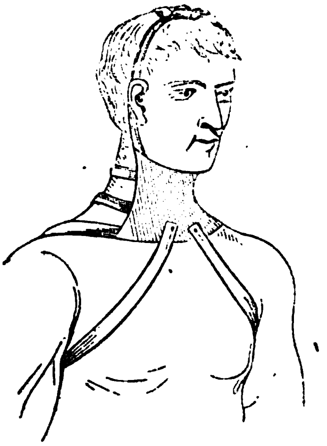
Eight-tailed Bandage for the Back of the Neck.

It is by no means an easy matter, without a special kind of bandage, to keep a poultice or other dressings on the back of the neck, to prevent them slipping from their position. The cases requiring such a bandage are numerous—burns, dressings for blisters, setons, issues, &c.

Composition of the Bandage.—A piece of linen rag large enough to cover the surface required, folded either double or single; in depth it should be long enough to extend from the under part of the occiput to a line with the shoulders. To the upper corner of either side, two tapes or narrow strips of roller are to be sewn at right angles to one another, long enough to extend, the one to the top of the head, and the other to beneath the chin, and to tie in these situations. To the lower corner of either side, two more strips or tapes are to be sewn at right angles to each other, two of them long enough to tie in front of the neck, and the other two to pass down beneath the axilla, and then up to the neck again.

Application.—You place the square portion of the bandage, containing the poultice or dressings, on the back of the neck, and dispose of the eight tails in the following manner :—The four horizontal ones are to be tied in front of the neck—two beneath the chin, and two low down on the neck. The two upper long ones are then to be passed behind the ears, and tied at the top of the head, while the two lower long ones (and these are the longest of the eight) are passed downward in *front* of the shoulder, and then underneath the axilla, and turned up behind the shoulder, and pinned to the edge of the square portion of bandage at the lower and back part of the neck. It will thus be seen that the dressings cannot become displaced either upwards, or downwards, or backwards. (Fig. 30.)

FIG. 31.



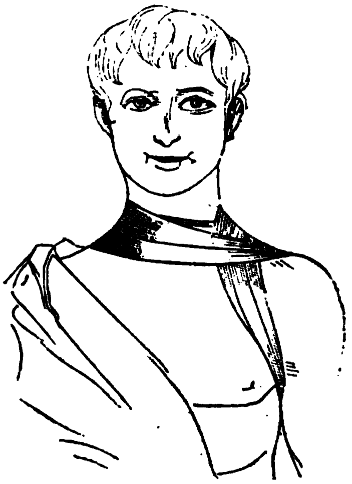
Eight-tailed Bandage for the Front of the Neck.

It is more difficult to keep a poultice, or dressings, on the front of the neck than on the back of it, more particularly where they are required for the upper part, beneath the chin. The cases requiring this kind of bandage are more frequent in the front of the neck, though their nature may be the same. Thus, burns and scalds, and the formation of scrofulous abscesses, occur more frequently in this situation than in the back of the neck. The composition of the bandage is the same as the last described, consisting of a square piece of linen rag, and with eight tails attached to it, in a similar manner. The position of the bandage is reversed, being placed in the front insteadof the back of the neck, and the four middle tails tied behind, the two upper ones passed behind the ears, and tied on the top of the head, while the two lower ones are passed *behind* the shoulders, and brought up *in front*, and then pinned to the lower edge of the square portion of bandage. It is a very simple and convenient form of bandage. (Fig. 31.)

Figure-of-8 Bandage for the Side of the Neck.

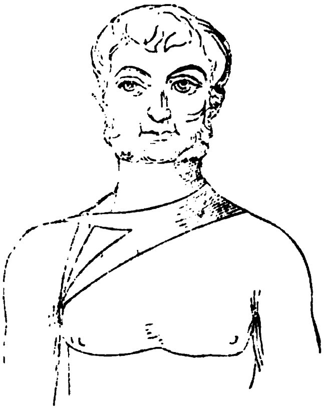
This bandage is used when you want to make more decided local pressure, on one part of the neck than another, as, after bleeding in the jugular vein, or to make pressure over a sinus, or chronic abscess. The operation for bleeding in the jugular vein is very simple, and one that is often required in children, after injuries of the head, when it is difficult to bleed in the arm, the veins being so small, and, in fat children, out of sight; whereas the jugular vein is easily found, by turning the head over to the opposite side, and then pressing on the vein, in the situation just above the centre of the clavicle, where it is dipping down to enter the subclavian ; (a line drawn from the angle of the jaw to the centre of the clavicle gives you the usual course of the external jugular.) The important point to attend to in this operation is to keep the pressure firmly applied against the vein below the opening, during the time the blood is flowing, to prevent air entering the vein, which has in more cases than one proved fatal. You make this pressure either with your thumb, simply by pressing it into the hollow above the clavicle ; or you put a compress of lint in it ; or you may use a method which I have often found to succeed, namely, make the pressure against the vein, with the vessel into which you are receiving the blood ; and in children you may do this very well, by using a shallow vessel, such as a saucer. Of course, before you remove the pressure, in whatever way you make it, you must place a compress over the opening in the vein. You then take a broad piece of adhesive plaster, and place it over the compress, an assistant pressing gently on it ; the bandage has then to be applied, which consists of a common single-headed roller, which is to be begun by passing two or three turns round the neck, and then passed down under the axilla (the opposite one, of course, to the side on which the wounded vein is,) —brought up again behind the axilla, crossed obliquely in front of the neck, round over the compress, to the back of the neck : then round again to the front of the axilla, and so up behind again ; repeating this three or four times, crossing it, in fact, in the figure of 8, the cross of the figure sur-

FIG. 32.



rounding the neck and the axilla. You may pin the loops where they cross each other, as well as the folds of bandage. (Fig. 32.)

FIG. 33.



Four-tailed Bandage for the Side of the Neck.

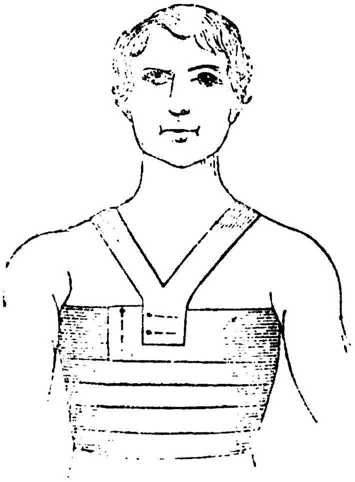
The use of this bandage is the same as the one last described—namely, to keep up pressure upon the jugular vein, after bleeding in this vessel, or to keep dressing and compresses upon wounds or sinuses situated in the side of the neck. The bandage is composed of a long piece of calico or linen rag, of a sufficient length to extend round the neck, and to tie beneath the axilla of the opposite side; its width will depend upon the extent of the surface wished to be covered. It is to be split into four tails, two at either end, leaving a small central portion unsplit. When applied, the central unsplit portion is placed on the side of the neck, over the dressings and compresses, while the four tails are disposed of as follows: the two lower ones are passed obliquely across the chest (one before, the other behind it) to the opposite axilla, under which they are to be tied in a common running knot. The two upper tails are passed across the lower part of the neck, (before and behind,) and made to cross one another on the top of the shoulder, and the two ends then passed down in opposite directions, and tied beneath the axilla also. The bandage cannot now slip, and can be made to keep up most efficient pressure. (Fig. 33.)

BANDAGES FOR THE CHEST AND SHOULDERS.

It is as well to consider the bandages of the chest and shoulders at the same time, for they are most frequently both included in the same bandage; and here I shall have to mention the treatment of one or two fractures, which admit of being cured by bandages only, reserving those, as I have already stated, which require special apparatus for consideration afterwards.

There are only two bandages peculiar to the chest—namely, the common circular or spiral, and the many-tailed: and these may be made either of broad calico or flannel, from four to five inches wide, and about six yards long: the cases requiring these bandages are fractures of the ribs, burns, &c.

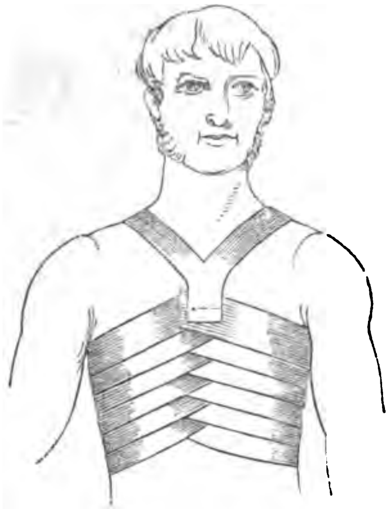
FIG. 34.



Common Circular Bandage for the Chest.

If you are employing the bandage for dressing wounds of any kind in the chest, you merely make a few turns, sufficient to confine the necessary local application; but if the case be one of fractured ribs, you must then take more care, seeing that the bandage lies flat and even, and that each turn overlaps the other for a third of its width. In bandaging the chest, you must begin at the lower part first, and make the patient expire, before you pull upon the bandage. The object of this is, that you may confine the long ribs as much as possible, for they move to the greatest extent; and if they are well fixed, less constriction will be required at the upper part of the chest, for the upper ribs cannot move without the lower ones. In cases where there are many ribs fractured, or where they are broken in more than one place, there would be a disposition, if the bandage pressed with great force, to push the fractured ends of the bone inwards, a circumstance to be avoided. To guard against this occurrence, you place a piece of thick pasteboard, moistened, to fit the shape of the chest, over the fractured ribs, making it press on the sound ribs, on either side of the fractured ones. The circular bandage may then be applied without fear of causing the above evil. You guard against the bandage slipping down, which it will be inclined to do, however tightly it is applied, by pinning a piece of roller to the centre, in front, and then splitting it into two tails, passing one over either shoulder, and pinning them behind. The great point to attend to, in this bandage, for the treatment of fracture of the ribs, is, not to let it get loosened, for upon this depends the cure of the patient, as well as the prevention of inflammation of the pleura; for the fractured ends cannot move without irritating the pleura, and of course producing inflammation either of this membrane or of the lung itself. (Fig. 34.)

FIG. 35.



The Many-tailed Bandage for the Chest.

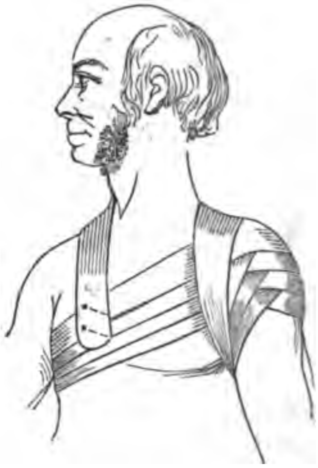
This bandage is useful, where, from the nature of the case for which it is employed, it is important to avoid moving the patient as much as possible, as in large burns or scalds, and in dressing blisters, &c.: in most of these cases it causes great pain to the patient to move him, in order to apply a circular bandage; whereas, when the many-tailed bandage is employed, there is no occasion to alter the position of the patient after its first application.

Composition.—You take six or eight strips of calico, long enough to encircle the chest, and to overlap at their ends from three to four inches, and about four inches in width. These separate strips are to be sewn at their centres to a short portion, about a foot in length, each portion overlapping the other to the extent of an inch; when applied, the patient must be raised in bed, and the vertical portion of the bandage (to which the others are sewn) placed in a position on the bed, that when he lies down it shall correspond with the spine, and the many tails be in a position to surround the chest. The tails are to be so placed that those towards the lower part of the chest should be the uppermost, and you commence by taking these two, and drawing either end round the chest, and pulling evenly upon them, make them overlap; you then take the two next, and bring them up in the same manner, and from the way in which they are sewn they will overlap the two preceding ones. The rest of the bandage is to be disposed of in the same manner, till all the tails are made to overlap both at their edges as well as at their ends, and if they do this firmly and evenly, then one will fix the other, and the two last be those only that require pinning. The whole bandage is prevented slipping by splitting a piece of roller, and fastening it to the upper turn or turns of the circular bands in front and at the back. (Fig. 35.)

The Spica Bandage for the Shoulder.

The spica bandage, like the figure-of-8, may be made either of one or two bands. It is used for treating fractures of the acromion process, or for applying pressure to abscesses deep in the axilla, or for supporting the shoulder after dislocation. You apply it by taking either a flannel or calico roller, and pass one turn round the shoulder, beneath the axilla of the affected side, then down before the chest, to the axilla of the opposite side, round underneath it, up the back to the top of the shoulder where you started, then down beneath the axilla of the same side, up again behind on to the top of the shoulder, and down in front of the chest again, to the opposite axilla, and round behind the back as before to the top of the affected shoulder again. Each turn of the bandage on the top of the shoulder should only partially overlap the previous one, which enables you by degrees to surround, and so to give support to the whole of the shoulder-joint. (Fig. 36.)

FIG. 36.



You may apply the spica also with a double-headed roller. You take a roller in either hand, and commence by placing the central portion under the opposite axilla to the one you wish to support; you bring one roll up behind the shoulders, the other in front of the chest, and cross them over the acromion of the affected side; changing hands, you pass one end down below the shoulder-joint, the other in front; cross them beneath the axilla, and, changing hands, you carry one roller along the back, the other in front of the chest, and cross them under the opposite axilla, and bring them up as before to the top of the shoulder of the affected side, and surround the joint, and repeat the same turns till the bandage is exhausted, making each turn overlap the preceding one only partially, as with the single-headed roller.

Figure-of-8 Bandage for the Shoulders, (single roller.)

This bandage is applied with the intention of keeping the shoulders backwards in cases of fracture of the clavicle, or dropping forwards of the shoulders in persons who stoop, or are what is called round-shouldered. You may use either a single or double roller. The single consists of a long roller, three inches wide, and six yards long, or longer if required. It is commenced by passing one or two turns round the shoulder of the sound side, (if the clavicle be fractured,) placing a compress in both axillæ to protect the skin from pressure. You then pass the roller up in front of the joint, over the acromion process, then down behind the shoulder to the back part of the opposite axilla, underneath it, then up in front, over the acromion on this side, and down behind the shoulders again to the opposite, as before, and this is repeated till the bandage is exhausted. Of course, while the bandage is being applied, the shoulders must be kept back by an assistant. This bandage answers very well when it can be kept in position, but the objection to it is, that it is so liable to slip forwards, or from the shoulder on to the centre of the clavicle, when, of course, all purchase is lost on the ends of the bone, and the bandage, if tight, will do more harm than good—namely, pull the shoulders forwards instead of backwards. This tendency to slip off the acromion process may be guarded against to a certain extent, by fastening a piece of bandage to the two loops of the eight behind, so as to keep them on the shoulder. (Fig. 37.)

FIG. 37.

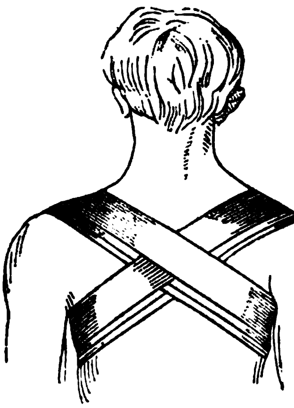
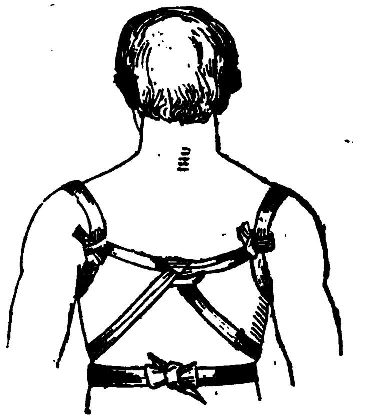


*Figure-of-***8** *with double-headed Roller.*

The principle of action is the same in this as in the other kind I have described; but you use a double roller instead of a single one. It gives you more purchase, perhaps, than the single; for it enables you to pull upon both shoulders at once, having a roll of the bandage in either hand. You commence by standing behind the patient, and placing the central portion of the bandage on the back between the shoulders; you pass the two heads of the roller, one on either side beneath the axillæ, making them come up in front to pass over the acromion, then down behind the shoulders; the two ends of course crossing one another, and requiring you to change hands; they are then to be passed beneath the axillæ again, and brought up in front as before; and this is to be repeated until the whole of the bandage is exhausted.

FIG 38.



Looped Bandage for fixing the Shoulders Backwards, made with two common Rollers.

This bandage I think will be found to be preferable to the common figure of **8**. More force can be applied to be shoulders, and the loops that keep them backwards can be prevented slipping forwards. You take two common rollers, about three inches wide each, and long enough to pass round the shoulder-joint, and twice round the chest. You then make a loop in one of the ends of either bandage with a common knot, the loop being large enough to admit the shoulder, easily. grasping it over the acromion without slipping. The two knots of the loop are placed behind either shoulder-joint. You then take the two hanging ends of the bandage, and tie them together in the centre between the shoulders, (pulling upon the loops as much as possible before doing so.) The remaining long ends of the two bandages are to be disposed of in the following manner:—You pass one on either side round to the front of the chest, and crossing them, turn them backwards again, and bring them round to the back, and there tie. The object of these two last turns is to keep a stretch upon the transverse band which connects the two loops together, and so prevent them slipping from their position, at the same time that they allow of the whole bandage being tightened at pleasure. (Fig. 38.)

I shall next consider the bandage for the female breast, for the abdomen, and groin.

A PROSPEROUS AND BENEVOLENT APOTHECARY.—M. Delort, a retired pharmacien of Bordeaux, died lately in his ninety-third year, and has left the following legacies:—£2000 to the hospitals of Bordeaux; £600 to the Maternity Charity; £600 to the poor of his parish; £600 for the removal to a more convenient site of the Botanical Garden; £2400 for the establishment of public fountains. Certain conditions are, however, imposed on the authorities to forestal any unreasonable delay in the carrying out of the testator's wishes. As a peculiar and very sensible feature, we should mention, in the last place, that £16 are annually to be given to the house-surgeon or house-physician who shall have fulfilled his duties in the most creditable manner.

Lectures
ON THE
PHILOSOPHY OF MEDICINE,
DELIVERED IN THE
Lecture-room of the Literary and Philosophical Society, Newcastle-on-Tyne,
BY ROBERT M. GLOVER, M.D.

LECTURE IV.

Sketch of the History of Medicine, and of the Progress of Medical Doctrine.—Origin of Medicine.—Hippocrates.—The Alexandrian School.—The Romans.—Galen.—The Arabs.—The Dark Ages.—Institution of Hospitals.—Revival of Letters—Paracelsus.

As in my first lecture I elucidated my general views regarding induction and the inductive sciences by referring to the great outlines of the history of science, I shall now give a historical sketch of the progress of medicine with a similar view. I shall endeavour to exhibit the general doctrines which have prevailed at different times, and the circumstances which have influenced medicine, rather than mere details; but the latter cannot always be avoided.

As other sciences have been referred to a remote eastern origin, so we might seek the commencement of medicine in the obscure records of Egypt or India. Every nation, however rude, must have had some who professed to have skill in the treatment of disease. The instincts of Nature and accident would lead to the discovery of some simple remedies. The facts would gradually be registered in a rude way. The beginning of a science would thus be made. Superstition would readily avail itself of the means thus presented, in order to influence the vulgar. The Egyptian and Grecian priests, and the monks of the dark ages, have a certain resemblance in this respect, which is not without a lesson. But we must look for the first authentic records of medicine, as of science, to that noble race, who would almost appear to be, as their traditions taught, derived from the divine spirit rather than any people who ever existed—the godlike race of ancient Greece, the purest type of mind and form. How beautiful are their allegories with regard to the origin of medicine! What a conception of the greatness, beauty, and dignity of the subject, in associating the art of healing with Apollo, the source of heat and light, the patron of learning and the fine arts. His victory over Python has always seemed to me symbolical of the triumph of science over disease, and, to bear out the idea of Lord Bacon, that the fables of the heathen mythology were the embodiment of the lessons of a more remote civilization, derived perhaps from nations which have perished, and left no other traces behind.

The priesthood in Greece, at an early period, took possession of the art of healing. The temples of Esculapius were a sort of hospitals, where records of the cases were kept, and thus experience accumulated. The exercise of medicine was hereditary in certain great families of the priesthood, the Asclepiadæ; and one of these families, by their pre-eminence, and the liberality with which they delivered their experience to the world, have acquired a glorious name, which will never be extinguished.

This family is that of Hippocrates. During the space of 300 years, it furnished seven physicians of the name, celebrated by the cures they effected, and the writings which they left. These works, of which there are about seventy-two, are popularly ascribed to one of them, because he was the most distinguished—Hippocrates, the son of Heraclides.

As this is not always generally understood, it may be well to say a few words respecting the genealogy of Hippocrates, and the members of the family. The first of the family known in history was named Nembros. He lived in the time of Solon, in the 49th Olympiad, 580 years before Christ. He had two sons, Gnodosicus and Chrysos. The son of Gnodosicus, or Hippocrates the first, was the contemporary of Miltiades and Themistocles. He lived during the war of the Greeks against the Persians, in the 71st Olympiad, 500 years before Christ, and is supposed to be the author of some of the surgical treatises in the Hippocratic collection.

Hippocrates the first was the grandfather of Hippocrates the second, who was born in the first year of the 80th Olympiad, 460 years before Christ; and arrived at his greatest celebrity in the 86th Olympiad, 436–432 years before Christ; and died in the fourth year of the 100th Olympiad, 375 years before Christ.[*] This was the great Hippocrates: from him were descended several physicians of the same name, who maintained the reputation of the school of Cos, and of the family. For example, Hippocrates the fourth was physician at the court of Macedon after the death of Alexander, and cured Roxana, the widow of the great conqueror, of a dangerous illness. The family flourished as practitioners for nearly three centuries, and we can number as far as Hippocrates the seventh.

The second Hippocrates, then, was the greatest of the family. He was a physician-priest, who acquired his knowledge in the temples, where votive tablets hung, recording the cures that had been performed, and a list of cases gradually accumulated. It is difficult, among the works ascribed to him which have come down to us, to distinguish, not merely those of particular members of the family, but even the interpolations and forgeries of later times. There were rival schools to that of Cos, where others of the Asclepiadæ taught; but no doubt we may take the Hippocratic writings, as containing the exposition of the state of medicine among the most experienced, learned, and philosophic of the age.

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[*] I have thought it necessary to mention these circumstances respecting Hippocrates and his family, for the sake of the coherence of my sketch. They will be found in Sprengel, in Littré's Vie d'Hippocrate, prefixed to his splendid edition of the works of Hippocrates, and in the Sydenham Society's edition of the genuine works of Hippocrates. I take this opportunity of stating a fact with regard to the work of M. Littré. I first saw a notice of the first volume in the Paris *National*, in 1839, with an intimation that a volume would be published every three months, and I was induced to subscribe. Instead of this, a volume has not appeared even once a year! This shameful practice should be stopped.

The fundamental doctrine of their works is derived from the imperfect physics of the period. There were four elements—fire, air, earth, and water; and in the animal body four humours—blood, phlegm, bile, and atrabile. Diseases were made to depend on the superabundance or want of proportion in the humours; and the re-establishment of the equilibrium which ought to exist among them was what would bring about health. It is worthy of note, that Hippocrates himself seems to have been aware of the crudities of his theory; and that he stated it solely as the highest generalization which the facts and science at his disposal admitted of; for he says that we may plunge into speculations moro or less profound, on this subject; that for his part he does not wish to dispute with any one, inasmuch as the conqueror in such disputes would merely prove that he is able to accumulate words with most volubility.

The Hippocratic writers knew little of anatomy, or what we understand by pathology. The same kind of prejudice with regard to dissection existed then, as now among the unenlightened Mohammedans, and in Indostan. They drew their anatomical ideas from the analogy of the inferior creation. They did not properly distinguish ligaments, muscles, and nerves; nevertheless they had some notions of the vessels, glands, and interior organs.

The qualities—sweet, bitter, acid, and salt, of the humours, were the foundation of another branch of the Hippocratic theories.

It was in the symptomatology of disease that this school particularly shone, and some of their doctrines on this head have a generality which renders them, to a certain extent, applicable for all time. For instance, the doctrine of the three general periods of disease—crudity, coition, crisis. The morbific principle, before undergoing expulsion from the body, was supposed to undergo a kind of elaboration from the sanative principle of nature, the same as the *vis medicatrix:* the signs of these three periods were noted with the greatest care. The phenomena which denoted either a favourable crisis or a dangerous metastasis were most rigorously determined; and upon all this was founded a system of prognosis, which even now may furnish many valuable hints.

As an example of the refinement to which observation had reached at this period, the doctrine of critical days may be cited. According to this, Nature had a tendency to evacuate the morbid matter after the attack, at certain periods in preference to others. These days were the fourth, seventh, eleventh, fourteenth, seventeenth, and twentieth.

From the nature of the Hippocratic theory of disease, great attention was paid to the signs afforded by the urine. All the states of this fluid, and the sediments which can be observed by the unassisted senses, were attended to.

In diet and regimen, effects of climate, and so forth, much was done by this school.

Most of their remedies were drawn from the vegetable kingdom, with the exception of alum, and some preparations of lead and copper. They practised bleeding, and made great use of purgatives, sudorifics, poultices, and baths.

In summing up their merits, we may honour them as models of observers during their age; they carried the greatest care into the practice of their art. They substituted speculations which had at least an air of rationality for vain hypotheses, and the attentive observation of the healing powers of nature for subtle and verbal controversies, or blind empiricism.

Of the dogmatical and empirical schools which succeeded that of Cos, I have already spoken. But an important science which bears materially on medicine began to be cultivated.

Natural history and anatomy date their origin as sciences from the time of Alexander; and, in all probability, his extensive conquests, and those of his successors, by rendering the Greeks familiar with the natural productions of various regions, contributed very much to the circumstance. Aristotle has described with astonishing accuracy, on the whole, the comparative anatomy of animals, and many of the elements of the frame. Many have been so much embarrassed to account for the extent of his knowledge of natural history, that they suppose him to have copied from his predecessors without acknowledgment. But, in fact, he appears to have been preceded by few naturalists, and these confined themselves to isolated facts, without daring, like the Stagyrite, to embrace the whole field of animated nature, and endeavour to deduce general laws of organization and development.

Theophrastus was the most distinguished of the naturalists who followed Aristotle. His labours were directed more particularly to the vegetable kingdom—its structure and physiology. He even describes several of the diseases of plants, as the ergot.

But the most remarkable observers in the field of natural history and anatomy flourished at Alexandria under the reign of the Ptolemys. Herophilus, and Erasistratus lived during the reign of Ptolemy Soter. The former carried his researches so far, that one of the greatest of the earlier modern anatomists considered him infallible. He dissected great numbers of human bodies, and even, as every reader of Celsus is aware, as it is said, living criminals. He described perfectly the brain and the nerves, and many of his descriptions of particular organs might be regarded as classic at the present day.

But the pathology of these great men was not on a level with their anatomy. Erasistratus modified the humoral doctrine of Hippocrates, in so far, that he referred disease to a kind of *error loci* of the humours. Many of the disciples of the Alexandrian school were nearly as celebrated as their masters.

The Romans' did so little for medicine, that they might almost be passed over without notice. Celsus can only be regarded as a compiler. Perhaps the best part of his work is that descriptive of surgical operations. The most eminent writers under the Roman sway were Greeks. But the natural history of Pliny shows us that facts were gradually accumulating; and so no doubt there would be a progress in medicine, even when we cannot trace it in the works of great writers. Nevertheless, a host of writers might be cited to show that there was no want of attention at least bestowed on the art of healing, between the epoch of the Alexandrian school and that of Galen.

One author deserves especial notice: Dioscorides, of Anazarba, who lived probably about the time of Nero. He was the author of what we should now term a materia medica; and although he was a dogmatist, and explained the effects of remedies by their elementary qualities, still the facts he collected were such, that, for nearly seventeen centuries, his works were the principal in which botany and materia medica were studied. Having travelled in the train of Roman armies, the information which he got together by his surpassing industry was of such extent, as to cause him for the long period mentioned to be regarded as the *ne plus ultra* in the department which he professed; and he is probably still venerated as such in the schools of Fez, Ispahan, and Bokhara. Many of his remedies are sufficiently absurd; others still retain their place in the diseases in which he indicated their use. It is evident from his works how the resources at the disposal of the physician had increased from the time of Hippocrates. We find him describing several chemical processes (for instance, that for making white lead by the Dutch process, as it is now termed) nearly as practised in the present day. Even the adulterations of remedies, and their detection, find a place.

Want of space prevents me from doing more than glance at the theories of Asclepiades of Bithynia, who applied to the human body, in health and disease, a modification of the atomic theory of Epicurus. Man, according to him, results from the accidental reunion of atoms, which affect a determinate form, and whose movement, regular or irregular, in the space assigned to them, constitutes health or disease. One of his principal practical doctrines, I may remark, in passing, was an exaltation of the powers of wine, which he calls a sovereign, incomparable, and divine remedy. He flourished about the time of Augustus. His disciple, Themison, formed what was called the methodical school, which appears to have been especially remarkable for the extreme formality of its doctrines. He founded everything on the *strictum* and *laxum*—that is, too great contraction and relaxation. One of the disciples of this school, a Numidian named Cœlius Aurelianus, was a great guide of the monks who practised medicine in the middle ages. It is curious how, in some cases, very sensible modes of treatment were deduced from such general doctrines as those of the methodists. For instance, in dropsy, their great object was to effect the restoration of the forces, in order to restore to the skin that tonicity, to the absence of which they attributed the disease. For this purpose they recommended rubefaciants, powerful sudorifics, and hot sand baths. They did not neglect purgatives and diuretics also.

The sect of pneumatists differed from the methodists principally in superadding the influence of the *pneuma*, or spirit, to the other doctrines. They paid particular attention to the mixture of the elements, as they called them, and the influence of sensible qualities. According to them, heat and moisture, mixed together, are the elements, combined, most favourable to health. Heat and dryness occasion acute diseases; cold and moisture, phlegmatic affections. Cold and dryness give birth to melancholy. Everything dries and becomes cold at the approach of death. To this school belonged Archigenes, and Aretæus, unquestionably, after Hippocrates, the best observer of antiquity. He is especially remarkable for the attention which he paid to the forces of nature, the individual differences of the constitutions of men, and the effects of climate on disease. These, and other men of inferior note, prepared the way for the advent of the greatest medical genius of ancient times.

Galen unquestionably deserves this title. He possessed the most brilliant genius, a vast erudition, and rare talents of observation. His great object seems to have been, to choose, out of the doctrines of various sects, with a true electric spirit, the best theories and most authentic facts, and systematize the whole in one grand plan. I pass over his anatomical and other doctrines, in order to dwell a little on what may be regarded as the key-stone of his system.

Galen has recourse to the doctrine of the four elements; from the elements, the principles of bodies should be distinguished. The elements possess properties which make them fall under our senses, while the principles are imperceptible. The properties of the elements do not resemble always those of the bodies which result from their mixture. The essential qualities of bodies depend on the elements, the secondary qualities which strike senses arise from the mixture of these. The different kinds of savour, odour, hardness, softness, moisture, cold, heat, and dryness, are the results of the different combinations of the elements. The same principles should serve to explain the details of every function; attraction, which is the first of the natural functions, being never more active than when the elementary qualities of the substance attracted resemble those of the attracting viscera.

The four cardinal humours of the body are in perfect harmony with the qualities just mentioned. The character of the blood is only constituted by the essential primary qualities, not but that, the elements are there, but there is not such a mixture as to cause any of them to preponderate. On the contrary, there is excess of water in the lymph, fire in the bile, and earth in the atrabile. These two last humours should be regarded as true excrementitial matters, and by them the temperaments are to be explained.

Although health, strictly speaking, consists in the perfect and uniform mixture of all the elements, we cannot rigorously apply this idea to all cases. Health, then, should be defined the state in which the body is exempt from pain, and executes its habitual functions without obstacle.

From this definition of health follows that of disease.

Diseases are unnatural states either of the members of the body, or the organs. Those of the members arise from a want of proportion in the elements. In this way eight different morbid states arise. Those of the organs depend on the number, figure, quantity, and situation of the parts. The symptoms depend on derangement of a function, or a change of apparent qualities, or fault of a secretion. The causes of disease are remote or near, predisposing and exciting. The predisposing causes depend almost always on the excess and degeneration of the humours. When the blood is in too great quantity, it is important to determine whether this is absolute, or relative with regard to the forces. Thus two kinds of plethoric affections arise, which have been distinguished also in modern times.

To every alteration of the humours, Galen gave the name of putridity. This takes place every time that a stagnant humour is exposed to a high temperature, without being able to evaporate. It is for this reason that suppuration and even urinary sediments are proofs of putridity.

In every fever, the putridity develops a preternatural heat in which the heart and vascular system take part. All fevers proceed from a degeneration of the humours, except the ephemera, which depends on a particular affection of the *pneuma*. Among intermittent fevers, Galen attributes the quotidian to the alteration of the pituita; the tertian to that of the bile; the quartan to the atrabile. The latter being so difficult to move is the reason why the access is so tardy. He explains inflammation by ascribing it to the introduction of the blood into a part which did not contain it. If the *pneuma* gets in along with the blood, the inflammation is pneumatic; if the blood is pure, it is phlegmonoid; if accompanied with pituita, œdematous; erysipelatous if joined to the bile; schirrhous if there is a mixture of atrabile. The distinctions which Galen drew with regard to hæmorrhagic affections are yet, to a certain extent, retained.

The reputation of Galen was due more to the elegance and symmetry of these theories than to the accuracy of his descriptions of disease. The marvellous power of prognosis which he claimed is verified, to a certain extent, by authenticated facts.

The therapeutics of Galen were shaped on the model of his pathology. Medicines were recommended in disease, according to their supposed qualities of hot or cold, moist or dry. These rules still reign supreme in the medical practice of the East, where not overthrown by European influence. The physician to the Ameer of Bokhara would probably now prescribe according to these supposed qualities of remedies, on the principle, *contraria contrariis curantur*.

After the time of Galen, with the decline of the Roman empire, and also with the gradual deterioration of the free and classical and philosophic spirit of antiquity, medicine shared the general fate. A few incidental discoveries or observations might be made, but all life and energy were gone; down to the latest periods of the Grecian empire, medical authors occasionally appeared, but with the exception of the suggestion sometimes of new remedies, there is little to attract our attention in such a sketch as this.

The Arabs paid vast attention to medicine, but their progress cannot be said to have been equal to the ardour with which they laboured. In matters of doctrine they were the servile imitators of their Grecian masters, whom their greatest physicians, as Avicenna, seem to have often professed without understanding. And in reality we only owe thanks to the Arabs for the zeal with which they kept alive the lamp of science, and the numerous new remedies, and chemical substances especially, with which they enriched the materia medica.[*]

We owe the institution of hospitals, in the earlier periods of the Greek empire, to the influence of the spirit of Christianity, and to the establishment of monastic orders for the relief of human suffering. The crusades both imported new and formidable diseases from the East, and created a spirit which devised the means of combating them. The hospital at Jerusalem, for the relief of pilgrims in the Holy Land, founded by merchants of Amalfi, is carried back by some as far as the seventh century. At a subsequent period, this was the origin of the order of the Knights Hospitallers of St. John of Jerusalem, who, after they became a military order, still continued to tend the sick in hospitals founded by them in various lands.[†] The example of this order and the importation of leprosy from the East doubtless contributed together to the spread of these institutions

Even in the records of the Franks and Saxons, we may observe traces of the practice of something like medicine. The treatment of internal diseases during the dark ages was mostly in the possession of the monks, who drew what learning they possessed on the subject principally from the Arabs of Spain. The external treatment was in the hands of the barbers. The formal re-establishment of medicine in Europe dates from the formation of the school at Salerno, about the close of the tenth and beginning of the eleventh centuries. Most likely the vicinity of the Sicilian Arabs favoured this event. This school had a regular

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[*] The names, alkali, alcohol, alchemy, and many others, are proofs of this. The term chemia, which was not unknown to the Romans, (see Thompson's History of Chemistry, vol. i. p. 4,) was probably derived from Chem, Cham, or Ham, the ancient name of Egypt, and thus means the Egyptian science. Towards the close of last century Schele endeavoured to show that Moses (learned in all the Egyptian sciences) dissolved the gold calf by a chemical process, and made the Israelites drink it.

[†] This order continued mindful of its original object down to the latest period of its existence as an independent power. At the close of last century the King of Sweden thought of putting all the hospitals in his dominions under the government of the knights.

curriculum of studies, and gave certificates of qualification on examination. Thus Europe possessed, even during the dark ages, two admirable institutions for the advancement of medicine, which hardly existed in ancient times—viz., hospitals, where disease could be easily and extensively studied, and a system of attesting the qualifications of those devoted to the profession.

It was not long before these institutions bore fruit. When all was submission to the authority of the ancients in general science, we can trace some independent thinking in medicine. Still this science was subject to the same kind of general influence as other branches of learning. After the revival of letters, Galen was worshipped pretty much like Aristotle. The scholastic disputations extended their sway over medicine. But the numerous discoveries of the alchemists, the detection of several of the anatomical errors of Galen, the spirit of original thinking which began to arise, and the spread of general information, rapidly prepared the way for the origin of modern medicine.

One remarkable man accelerated greatly the approaching revolution, and stands out in relief a gigantic and portentous figure between the old and the new—the extraordinary Paracelsus.

The revival of letters had brought with the doctrines of the ancient philosophers and physicians such an extreme veneration for their superiority, that this feeling threatened to chain the human mind for ages. We have seen how in philosophy those chains were broken by Bacon and others. In medicine the revolution was perhaps more sudden. But however superior might be Hippocrates and Galen to the rude leeches of the middle ages, any doctrinal supremacy which binds men to shape facts according to particular views, and leads them to distrust even their senses when opposed to authority, must be highly prejudicial to real knowledge.

Paracelsus had a career as extraordinary as his doctrines. He boasts, that at a very early period he had traversed Spain, Portugal, Prussia, Poland, Hungary, and other countries. He appears to have visited Constantinople in the suite of a Tartar khan of the Crimea. That in his wanderings he had profited, not only by lessons from medical men, but by those of old women, executioners, gipsies, &c. He seems to have got some knowledge of the Jewish cabala, and undoubtedly picked up some curious and valuable chemical secrets from the empirics of the time, who were almost all men of mystery.

His doctrines, with the single exception, perhaps, of that respecting tartar, which really does him credit,[*] are an absurd combination of the wildest and most extravagant notions respecting the action of the archeus, or vital spirit, the influence of the planetary bodies, &c., along with the rashest inferences drawn from the most crude empiricism. Many of his extravagant acts and sayings are well known. I cannot resist the temptation of quoting the following. When he proclaims himself the chief of a new school, he speaks thus—"What are you about, then, physicians and doctors? Don't you see rightly? Have you carbuncles instead of eyes? Your prince, Galen, is in hell; and if you knew what he has written me thence, you would make the sign of the cross with a fox's tail. Your Avicenna is at the entrance of purgatory. I have disputed with him concerning potable gold......O hypocrites, who will not listen to the voice of a physician instructed in the works of God! After my death, my disciples will discover your impostures; they will make known your dirty drugs, with which you have poisoned the princes and the nobles of Christendom."[*] Yet this man, almost a maniac, of debauched and scandalous life, was undoubtedly the principal author of a great revolution in medicine. Why? Because his chemical knowledge put him in possession of more potent means of treating disease than were in the hands of the learned physicians of the day. The inferiority of Galen was principally in the weakness of his therapeutics. Nothing could serve better to show the importance of chemistry in medicine, and the necessity of keeping in view the fact, that the great object of our art is to cure disease.

In my next lecture, I shall endeavour to trace the influence of the Baconian philosophy and the progress of *doctrinal* medicine, down to the close of last century.

A Clinical Lecture

ON THE

TREATMENT OF GONORRHŒA

BY

CHLORIDE OF ZINC INJECTIONS.

By E. J. LLOYD, Esq.,
Surgeon to St. Bartholomew's Hospital.

GENTLEMEN,—Gonorrhœa is a disease of such frequent occurrence, it occasions so much inconvenience, and is sometimes productive of such serious consequences, that I trust you will not consider a little time spent in discussing its treatment as mis-employed. I am particularly led to call your attention to this subject on this occasion, as I have been repeatedly questioned as to the mode in which I employ the chloride of zinc in the treatment of the disease; and as the use of this salt is only part of the treatment, I could not satisfactorily answer the question without stating the special circumstances under which I employ it, as well as the adjuvants which I at the same time employ. It is not my intention to go more at large into the subject of gonorrhœa on the present occasion than is necessary for the full understanding of the plan of treatment which I commonly pursue.

You have all, gentlemen, heard the symptoms of gonorrhœa so well described in the lectures on the principles and practice of surgery which you have attended in this hospital or elsewhere,—and, moreover, must have had so many opportunities of seeing the disease itself, and therefore of becoming personally acquainted with its symptoms,—that it would be a waste of time in a clinical lecture, to consider this part of the subject, except so far as is necessary for the elucidation of the treatment. Gonorrhœa is, I believe, in the first instance, entirely a local disease, and its seat in the male is exclusively the mucous membrane of the anterior portion of the urethra, this membrane on its surface undergoing a change essential for the formation of the contagious matter. But in bad constitutions, if the disease be neglected or improperly treated, it may extend, and in some instances rapidly, to the more distant parts of the mucous membrane of the urino-genital apparatus, and sometimes excite in these parts a similar change to that in the urethra. What is of great importance to be acquainted with is, that it seldom continues long confined to the mucous membrane, but exercises a pernicious influence in its neighbourhood, acting as a firebrand or thorn in the flesh, so that the contiguous structures are often brought to a state of high inflammation, and thence result consequences very distressing and sometimes of a very serious character. There are other secondary effects, as they might be called, of gonorrhœa which it is most important to understand, but to which I shall not allude even by name at present. As cases of the kind occur in the hospital, I shall be happy at future times to direct your attention to them.

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[*] See Thompson's History of Chemistry, vol. i. p. 162, et seq., for this very curious doctrine.

[*] Hoefer, Histoire de la Chimie, t. ii. p. 11.

Now, as gonorrhœa is not restricted in its influence to the mucous membrane, it is of much consequence that it should be arrested with the least possible delay; for when it is considered how much mischief as a tenant it may occasion if permitted to continue, all legitimate measures should be employed for its prompt removal. But as it often happens that before we are consulted, disease of a very serious kind has been excited in other parts, and, if so, that such disease must be specially combated, it behoves us at all times to ascertain this point at the earliest period in our power. I fully believe, that from these two points—viz., the rapid extension of the disease, and the necessity of its being combated with the greatest promptitude—not being attended to at once, a very protracted affection is often the consequence. I have observed that those who depend on specifics for the cure of gonorrhœa are very liable to overlook the secondary inflammations; consequently, they are left by their patients in disgust; and the same result often occurs to those medical practitioners who depend for the cure of gonorrhœa altogether on constitutional or "soothing treatment," as it is called. I wish to direct your attention especially to this circumstance, and to impress on you the necessity of combining the specific and constitutional, or common antiphlogistic treatment.

By the employment of specifics only, the disease will in many cases, no doubt, be speedily cured, especially if they be commenced early; and by constitutional treatment it will likewise be safely and permanently got rid of. But on either plan being separately employed, many unfortunate cases will occur, so that I believe, if you desire to obtain the reputation of being a successful practitioner in gonorrhœa, you must combine both the specific and constitutional treatment. Now, much judgment is requisite in the employment of both plans of treatment; constitutions greatly vary, and your treatment must in degree vary accordingly. You must therefore, in the application or adaptation of remedies, be guided by the state of general health of the constitution, as well as by the local symptoms. For want of this attention, I believe, I have seen patients, delicate young men, not only seriously injured in their health, but their constitutions so broken up by the treatment employed, that they have sunk into a state of atrophy, and died. I could adduce at least three cases of this kind that came under my notice. Again, the bladder and kidneys are sometimes seriously injured by the remedies employed. I shall not on this occasion have time to mention the treatment under which such disastrous results ensued, but perhaps I may do so on some other opportunity.

The few words I have said on this head are intended to put you on your guard, so that when a patient applies to you with a gonorrhœa, you may bear in mind that you have not only to cure that, but to take care that the general health is not impaired by the measures you adopt. Having premised thus much, I shall proceed to communicate to you the plan of treatment which I usually pursue in cases of gonorrhœa virulenta when consulted previously to any remedial measures having been employed.

I will assume that a patient has come to consult me a few days after having contracted gonorrhœa; there is a copious yellow discharge from the urethra, with pouting or protrusion of the lips of its orifice; the glans penis is red and swollen, as also in some degree is the prepuce, as well as the entire penis; there is soon slight uneasiness felt in the inguinal and pubic regions as well as in perinæo; there is pain in erections, and great scalding on micturition. Such were the symptoms (and in an aggravated form) in the first case in which I employed chloride of zinc as an injection in gonorrhœa, and this occurred nearly thirteen years ago.

CASE 1.—The patient was about fifty years of age, and stated that he had come to consult me under very disagreeable circumstances, for he was a married man, and had a severe gonorrhœa upon him. He added, that I must cure him before the arrival of his wife, whom he expected from the country in the course of a week. I considered this a good opportunity of testing the efficacy of the chloride, and I was led to make the experiment from having observed, in many diseases in which I had used it, the rapidity with which it would sometimes subdue and change morbid action. I considered, also, from the affinity of the salt for albumen and gelatine, that it might act beneficially on the secerning vessels. From previous experience as to the effects of the medicine on mucous surfaces, I thought that the urethra, even in its greatly inflamed state, would bear a lotion containing one grain of chloride to one ounce of water. This lotion I therefore prescribed, with directions that a very small syringeful should be gently injected every six or eight hours. The penis and perinæum were to be frequently bathed with tepid water, and I likewise prescribed the following medicines:—Rochelle salt, six drachms; heavy magnesia, one drachm and a half; antimonial wine, four drachms; syrup of marsh mallow, four drachms; gum mixture, one ounce, and six ounces of water. The sixth part of the mixture to be taken three times a day. I added two pills composed of two grains of calomel, ten of extract of jalap, and one drop of pimento oil, to be taken immediately, and repeated every other night. The patient was to come to me the next day. In the morning he presented himself, saying that he was much better; he had used the injection four times, and since the third there had been no appearance of matter from the urethra, nothing coming away but a slight watery discharge. I examined him, and found this to be the case. The inflammation of the penis had likewise subsided, but there was pain and tension in the perinæum, and uneasiness in passing urine. I directed that he should repeat the pills immediately, persevere with the mixture, have a warm bath at 98 deg. as soon as possible, and bathe the perinæum frequently with comfortably warm water. The next day the symptoms had very much diminished; there was no return of discharge, and before the end of the week all was well; and this, I believe, proved, on the arrival of the lady, a good cure, no return of the disease having occurred. You will be pleased to notice that the injection was continued the whole time.

CASE 2.—Another married man consulted me on account of gonorrhœa which had existed for a week; the symptoms were nearly as in the former case, and the same treatment was pursued. The chloride-of-zinc lotion was commenced on Dec. 4, and in four days' time the disease was cured.

CASE 3.—Charles Sims, an hospital patient, came under my care Dec. 5, and stated that he had had gonorrhœa for two months. From the nature of the discharge, and the inflammation of the parts, it appeared that he had contracted a fresh disease. He was subjected to the same treatment as the former patients, and on the 12th of December he was quite cured.

CASE 4.—Morris Green, also an hospital patient, came under my care on Dec. 4, on account of a bad gonorrhœa, which he had had for three weeks. He was subjected to the same treatment as was employed in the former cases, and on the 11th of December he was quite well. At the expiration of three days all purulent discharge had ceased.

CASE 5.—Mr. G——, a married man of plethoric habit, consulted me on Feb. 25, on account of a gonorrhœa, contracted seven days before. There was a copious purulent discharge, great ardor urinæ and chordee. The saline treatment, with antimony and warm baths, and the lotion of chloride of zinc, were prescribed. After the third using of the lotion, the discharge had almost ceased, there remaining nothing but a slight serous secretion. On the 28th of February, the only vestige of the disease that remained was slight tumescence of the orifice of the urethra.

It would only be a tedious repetition to adduce more cases of this kind; it will be a more profitable employment of time, particularly as I have now but a few moments to spare, to consider some other circumstances relative to the employment of the chloride-of-zinc lotion in gonorrhœa.

I have often used it in cases in which the inflammation of contiguous structures has co-existed with the gonorrhœa to a great extent, and a beneficial result has generally followed; and I have never observed any ill consequences from such procedure. I have several times employed it when hernia humoralis was existing at the same time in a most acute form; and I have likewise so used it this year, in the hospital, in several cases with decided benefit, the gonorrhœa having been cured, and the hernia humoralis being recovered from, rather more quickly than otherwise. In all such cases, I use pretty active depletory measures at the commencement of the disease, and administer sometimes the tartar emetic, in grain doses, every three or four hours, till the acute stage of the inflammation is gone by. I have also employed the same remedy with marked and almost immediate benefit in cases of gonorrhœal ophthalmia, both in children and in the adult; and I have also injected the cavity of the uterus with the same lotion, in some cases of long-continued purulent discharge, with speedy relief; and this in cases which had resisted all the more common remedies. I seldom use more than one grain to the ounce of water in recent cases of gonorrhœa, but in some cases I go as far as three grains.

I do not intend to state that the chloride of zinc will cure every case of gonorrhœa, but when employed in the early stage, it has proved in my hands more successful than any other remedy I ever employed. In cases of long standing, I have not found it equally efficacious, and it has often failed. Before concluding this lecture, I would caution you not to allow too large a quantity of the lotion to be thrown into the urethra at once; a small syringe, half full, and used very gently, is better than to inject large quantities. I would further urge upon you not to employ the lotion without combining with it the antiphlogistic remedies.

HONORARY DISTINCTION.—The Emperor of Russia has conferred the decoration of a Commander of the Order of Stanislaus upon Dr. Lullement, a physician of Rio de Janeiro, in consideration of his valuable medical services to subjects of Russia during the prevalence of the recent yellow fever epidemic in that city.

ADULTERATED COFFEE.—A sum of £1500 has been subscribed by merchants interested in colonial coffee, for the prosecution of grocers and others adulterating coffee with other substances than chicory.

A Clinical Lecture
ON THE USE OF
GLYCERINE
IN THE TREATMENT OF CERTAIN FORMS OF DEAFNESS.

BY THOMAS H. WAKLEY, Esq., F.R.C.S.,
Surgeon to the Royal Free Hospital.

(*Reported by* Mr. W. Tyndall Robertson, *Resident Surgeon.*)

Nearly two years have now elapsed since I published in The Lancet, * a paper on the Use of Glycerine in the Treatment of Certain Forms of Deafness. Numerous facts justified that publication. I did not rush into print hastily, and without due consideration. Tried by the severe and scrutinizing test of experience, glycerine now takes its place amongst the most useful of our remedial agents, in the treatment of several common varieties of deafness. Speculation on the subject is at an end: indisputable facts constitute the data whence the opinions favourable to glycerine have been formed.

The peculiar chemical properties of this fluid have led to its use in other complaints beside deafness, and in some with signal advantage. But the results of its use in affections of the ear have been even more satisfactory than were anticipated. In the hands of several surgeons, the remedy has been used with undoubted benefit: still, its successful employment often demands much care and patience.

I must enforce the "oft-told tale," that an accurate diagnosis is half the cure. With equal truth it may be stated, that the indiscriminate use of a remedy is calculated to bring many a valuable medicine into disrepute. The surgeon who would successfully resist morbid action, of whatsoever kind, must patiently investigate the character of the malady, before he decides upon the plan of treatment; otherwise much perplexity will ensue, and the intended antidote may become the actual poison.

A new remedy is sure to be exposed to the misfortune of being recommended in cases that are not suitable for its adoption: from this cause, an important agent often falls into disrepute, and even disuse. In the treatment of deafness, failures of new remedies are the more likely to happen, as aural maladies find no favour with the majority of the profession. Many empirics owe all their success and ill-acquired wealth to this cause.

The introduction of Glycerine into the treatment of ear-diseases has produced some slight change in practice; and many cases, which not long since fell to the lot of the "aurists," are now in the hands of regular practitioners, greatly to the advantage and safety of the sufferers. The examination of the ears by competent practitioners has led to the discovery of diseases unsuited for the use of glycerine, but having fallen under the notice of competent surgeons, unexpected relief has been afforded to many desponding patients. Why, it may be asked, should the surgeon abandon any class of diseases, and thus invite the charlatan to enter a field of practice which legitimately belongs to the profession? The impropriety of so doing cannot be doubted. It is improper, because it is injurious to the professional character; and it is unwise, because it encourages ignorance, at the expense of a too credulous public.

Soon after my first publication, many unsuccessful cases of the employment of glycerine in deafness were reported to me. This was to be expected. Failures were sure to take place, from a variety of causes; the two most frequent being, the inaptitude of the cases chosen for the employment of glycerine, and the impurity of the drug used. Several samples of glycerine were sent to me for examination. In only one instance was the specific gravity correct, and in several the fluid contained an admixture of lead and oil; such glycerine as this must always prove injurious. Sometimes it may, when thus impure, prove highly irritating, and instances of this kind have been mentioned to me by both London and country practitioners. If there exist oily particles in the glycerine, they become rancid, and the whole fluid is speedily vitiated; in this state it cannot be used with safety. I feel confident that the impurity of the article has been a frequent cause of failure. In other instances, the glycerine has not been used with sufficient diligence, nor for the requisite length of time. Structures that are almost disorganised cannot be restored to a normal state in a day.

The glycerine has now been employed in some hundreds of instances of deafness, and data have been collected that indicate the cases in which the remedy should be used, the duration of the treatment, and the probable or possible permanence of the cure. In prescribing the use of glycerine, care should be taken to descriminate between those diseases which are suitable for its employment, and others where the remedy would be introduced without the slightest prospect of advantage. In making this investigation and inquiry, the *history* of the malady cannot be too attentively considered. Did the defective hearing first occur after an eruptive fever?—an abscess in the face, or fauces?—a fall?—a blow?—a fit? Was there a discharge from the ear in the first instance?—if so, what was the character of the discharge? Did any sequestra escape? The *form* of the ear should be carefully examined, and the auditory canal and membrana tympani inspected by means of instruments especially constructed for the purpose. A silver speculum should be used, through which are reflected the rays of the sun, or of a very strong artificial light. By these means we are enabled to examine carefully the auditory cul-de-sac, and especially the membrana tympani. The quantity and condition of the cerumen should be ascertained. If a stethoscope be placed over the external ear, and the patient be directed to close his mouth and nostrils, and then forcibly expel the air from his lungs, it will readily be discovered whether the Eustachian tube be open or not.

If the drum be entire, the air will be heard to strike forcibly against it. On the other hand, if the drum be perforated, the escape of air through the auditory passage will truly indicate the condition of the parts. All these points are entitled to attention; some of them, however, as you will soon discover in practice, are of much more importance than others. Catheterism of the Eustachian tube should not be practised on slight grounds. When a necessity for the operation exists, of course it should performed, but not otherwise. In unpractised hands the operation may be productive, not only of annoyance, but of some mischief.

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* October No. 1849, p. 304.

If the surface of the auditory canal be hard and inelastic, shining, and of a whitish appearance: if the natural secretion be wanting, and the membrana tympani be not painful to the touch, the glycerine may be employed with a tolerable certainty of success, even if a partial deafness has been of many years' duration. An uneven appearance of the external membrane of the drum is an unfavourable sign, as in some instances it may be caused by displacement of the bones of the delicate aural structure. When, besides the sense of hearing, the other senses are deficient of action, the employment of glycerine alone offers no hope of success. In such cases the utmost possible attention should be paid to the general health of the patient, with a view to restore the activity of the nervous system. The existence of paralysis in any part, unless from a traumatic cause, is an adverse indication with respect to the use of glycerine. The modes of applying the remedy vary according to the state of the parts, and the effects sought to be produced. When the surface of the aural canal is dry and shining, the ears are to be carefully cleansed by means of cotton held within the blades of a pair of forceps, and moistened with warm water. The canal is then to be rubbed with dry cotton, held in a like manner. Next the glycerine is to be applied by the same means, the cotton, well soaked in it, having been repeatedly passed backwards and forwards in the external meatus, care being taken to diffuse it over the surface of the tympanum.

I shall now mention some cases, selected from my note-book, as furnishing good types of the diseases which have been relieved by this mode of applying glycerine. They might be multiplied to a very large number.

Mary R——, Gray's-in-lane; Nov. 19, 1850; aged forty-nine; a strong, healthy-looking woman, an out-patient of this hospital. Deaf six years; could not hear the highest power of sonometer; ears dry and horny; membrana tympani of the right side ulcerated after a discharge, (following scarlet fever,) lasting six months; in the other ear the membrane was sound. The ears were rubbed with glycerine in the usual way, and in a few days she heard successively Nos. 8 and 7 of the sonometer. In seven weeks she was quite cured, a healthy secretion of wax having been established.

Anne M——, Gray's-in-lane; aged thirty-three; a spare thin woman; had been deaf since the birth of her last child, when she had discharge from both ears; this ceased, and left her very deaf. Her ears presented much the same appearance as in the last case, the principal feature being the dry condition of the meatus. Glycerine was applied with the forceps and wool, and the woman was soon relieved from the unfortunate impediment.

Louisa R——, Hampstead, August, 1850, aged twenty-seven, deaf nine years. Ten years since, had measles, followed by a discharge, which lasted four months; it then ceased in both ears, and she has been deaf ever since that period. Hears better after washing her ears. The only peculiarity to be observed was a total want of wax. The glycerine was applied in the usual way, and gave almost instant relief. In six weeks her hearing was quite restored. This was a very remarkable case.

In other cases, where the ears are plugged with hardened, impacted wax, and where the membrana tympani is only coated with vitiated wax, the glycerine must be dropped into the ear three or four times during the day. In twenty-four hours the hardened mass will generally become sufficiently softened for removal—a little operation which requires some caution. If force be used, a portion of the delicate membrane of the drum may be torn away, and unpleasant consequences ensue. The mass will generally separate without force of any kind, if the means recommended be be carefully followed, gentle syringing will also promote the separation. A pellet of fine sheep's wool, moistened with glycerine, should be placed in the meatus, in order that the newly exposed surface may be brought under the direct operation of the remedial agent. The pellet also would be of use in protecting the parts from the effects of cold and the sudden influence of the air. The removal of an impacted mass of exsiccated cerumen without these precautions may produce more deafness than the presence of the offending substance.

Master F——, City-road, aged six years, deaf in the right ear six months. Has had a constant roaring noise in that ear; which was frequently swollen, and very sore; he had been ordered purges and lotions, from which no benefit resulted. On examination, the meatus was found completely blocked up with hardened wax. I filled the ear with glycerine, and then fitted the plug. The next morning I easily removed the obstruction, and in it was found a good sized cherrystone. The hearing was painfully acute for a few days. Sheep's-wool was kept in the ear. I mention this case to show how necessary it is thoroughly to investigate every case which presents itself to you. I remember another instance occurring in a member of parliament, who was annoyed at intervals for two years by a discharge from, and painful swelling of, the right ear. At last the dens sapientiæ of that side became painful, and the gum inflamed; this tooth was removed, and the ear was soon well. This case I consider very instructive; and the close proximity and anatomical relations of the part justify the supposition, that the diseased condition of the tooth caused the deafness and discharge from the ear.

H. R——, aged forty-three; Sept. 1850; an out-patient of this hospital; very deaf in the right ear; could not hear No. 3 of the sonometer; cannot refer it to any cause; it appeared very gradually. He suffers from a "blowing sound" in that ear; when masticating his food, each fall of his jaw sounds like the report of a pistol; at other times he hears loud crackling noises. As I suspected in this case, an impacted mass of solidified wax was found, filling up the inner third of the meatus. Glycerine was poured in until the meatus was full; the bees-wax plug was then applied. In two days the wax was completely softened, and could be easily removed. The hearing was perfectly restored.

Another mode of applying the glycerine consists in soaking a pellet of sheep's wool in the fluid, and pushing it gently into the meatus until it rests against the drum. The wool, when compressed, should be about the size and shape of the aural cul-de-sac. A plug of prepared bees-wax, warmed in hot water, and placed against the external opening, and retained there, will effectually prevent both the entrance of the atmospheric air and exit of the glycerine. This proceeding must be repeated every morning, the meatus being each time carefully cleansed by means of warm water, and made dry by passing backwards and forwards a small piece of dry cotton; then there will be a clear surface for the action of the glycerine.

One of the judges of the superior courts consulted me, with the concurrence of Sir B. Brodie. The learned judge was suffering from deafness in the right ear. The organ had become quite useless. The left ear was also partially deaf, but with the assistance of a very clever instrument, made by Mr. Rien, Strand, he was enabled to continue his judicial duties. On examination with the speculum auris, assisted by a powerful reflector, I found the lining membrane of the meatus dry and polished, the canal open and very straight, and the membrane of the drum of a pearly whiteness, the central part, projecting into the meatus, and presenting even more opacity than the other parts; no ceruminous secretion whatever. The air could be heard to strike against the tympanum in both ears; this membrane was intact on both sides. I applied the wool, well saturated with the glycerine, to the membrane, fitting the bees-wax plug, which effectually prevents the entrance of atmospheric air or the exit of the glycerine, thus keeping the agent constantly against the part to be acted on. This proceeding was repeated every morning, the meatus being gently cleansed with warm water before fresh glycerine was introduced. At different intervals, four distinct layers of white, pulpy epithelium were removed; the ear was occasionally swollen and painful. The treatment was presevered in for more than two months, and the membrane of the drum was much altered in appearance, assuming more of the dark look of the healthy organ. I introduce this case, not as a successful one in its results, but as illustrating very beautifully the mechanical action of the agent in the worst case of epithelial thickening which I have ever seen. In this case, had the deafness been due to the mechanical obstruction, it would have proved beneficial, but the cause was purely nervous, as had been previously diagnosed by Sir B. Brodie. There can be little doubt, that in many cases this cuticular deposition is the cause of deficient hearing, but it may be that the paralysis is the exciting cause to this morbid action.

M. O——, Clerkenwell, aged fifty-three, August, 1850. Deafness in both ears; followed a severe attack of influenza; never had any discharge from either ear; occasional pain in both ears; when travelling in a railway carriage, hears better than other persons. On examination, the aural cul-de-sac was found to be dry and inelastic, and to have the appearance of parchment; the membrana tympani looked white, and of a cartilaginous consistence; no wax or moisture of any kind; the meatus and tympanum painful to the touch. The glycerine was used as in the last case. From the right ear two pieces of epithelium, of a pulpy consistence, were removed, and one thick piece from the left ear. In seven weeks she discontinued her attendance, hearing, when at church, the clergyman of the parish, a blessing which (as she had stated) she never again expected to enjoy. I had twice to modify the treatment in this case, as some pain and swelling supervened.

Henry M——, Esq., a merchant, aged sixty-two, consulted me, October 16, 1850. Had been deaf for more than twelve years in his right ear; he could not hear the loudest tone of the sonometer. The meatus had quite a "parchment appearance." The ear was filled with glycerine, and the bees-wax plug introduced. This was repeated every day. In fourteen days several pieces of soft skin-like substance were removed, with evident improvement to the patient, who could now hear No. 3 of the sonometer. I was obliged to modify the treatment once, as the patient complained of pain. In this treatment the general health, especially the secretions, should always be watched.

Mary M——; Sept. 15th, 1850; Brentford; aged twenty-six; deaf in both ears; could not hear the highest tone of the sonometer; meatus dry and inelastic; tympanum much thickened; not perforated; not painful to the touch. Treated as in preceding case; treatment lasted six weeks. Two portions of cuticular soft substance came away from the right ear; the left did not appear much affected by the glycerine. In six weeks the patient heard No. 3 of the sonometer, at a distance of two feet from the ear. No improvement whatever in the right ear. I saw this patient a few days since; she states that the relieved ear fully answers all the purposes required.

When patients are treated in this way, they, of course, require the careful attention of the surgeon. The *modus operandi* is simple enough; the glycerine being kept continually in contact with the part, acts mechanically, either absorbing or penetrating the epithelia coating and separating the individual particles. The ordinary time required for this treatment varies from two to eight weeks, according to the method employed. With respect to the permanence of the relief—some cases always require the presence of glycerine, as the best known substitute for the natural secretion of the aural membrane. The frequent introduction of glycerine tends to restore the external meatus to a healthy condition, and fit it for the proper transmission of sound.

I mention the following case as one amongst several which I have seen, proving that glycerine, if it be not quite pure, and made according to the proper formula, may cause irritation, and produce other unpleasant symptoms; and there is little doubt that from such cause this really valuable remedial agent has frequently suffered in repute.

A lady, living at the West-end, aged sixty-eight, consulted me two years since for deafness in both ears. They presented the appearance which indicated the use of glycerine. During eighteen months she lubricated her ears with this agent, receiving considerable assistance and comfort from it, and entirely laying aside the acoustic instrument which had been previously ordered. One morning I was hastily summoned to this lady; she was in considerable pain; the right ear great swollen and inflamed; she was much alarmed. She stated that she had used the glycerine regularly. The cause of the pain and swelling I soon discovered to be the stale and impure glycerine, which appeared quite changed in character, having an offensive smell, and being too light in colour, of thin consistence, and deficient specific gravity. This *contretemps* was treated in the usual way, and she again uses pure glycerine with the same advantage as before.

In the removal of foreign bodies from the ear the glycerine is often eminently useful. Some months since a solicitor of Gray's-inn consulted me respecting pain and deafness in the right ear; he had suffered much pain for five months. The annoyance had so affected his general health that he was quite incapacitated from following his professional pursuits. There was an occasional discharge from the ear. The meatus and external parts were swollen, sore, and emitted a light muco-purulent fluid. There was a mass of offensive-looking wax. On being touched with a probe it was found hard and resisting. The glycerine was dropped into the ear in the manner just described. On the next day the impacted mass was easily removed. When examined, in the midst of it there was found a common *fly*, a foreign body which had evidently been the cause of the mischief. The use of the glycerine was continued for a few days, the pain ceased, and the hearing was soon restored.

The instrument called a *sonometer*, has proved of the greatest value in practice—not from any use it possesses as a curative agent, but that it proves, beyond a doubt, the effects of treatment, both to practitioner and patient. This must always be satisfactory. Thus you can test the progress of a case at stated intervals. It has done service to the profession.

It will be seen that sheep's wool is invariably used, instead of cotton wool. Its advantages are many: its elasticity enables it always to retain the position in which it is first placed; and for the same reason it is more easily withdrawn from the meatus. Cotton wool, when dry, changes its position, and in many cases is with great difficulty removed.

The mode of preparing the wool is very simple. The finest curled wool on the sheep's *head* is carefully cut with scissors, and washed in hot water; when dry, it is ready for use. The best wool is that procured from a small German sheep. This, however, is not always to be procured, and the other answers every purpose well enough.

In the paper already alluded to at the commencement of this lecture, I published several reports of cases—and amongst them will be found that of a girl, an hospital patient, now living at Chad's-place, Gray's-inn, and that of a lady living in Adelaide-terrace, Islington,—the former had been deaf eighteen years, arising from scarlet-fever; she was completely cured, and has not to this day any return of the distressing impediment. The other case is that of a lady, deaf thirty years, in whom the glycerine still acts as an artificial aid, and enables her to take part in conversation. Her son was with me but a few days since, and he tells me that relief is always afforded by the application of the glycerine. These cases I have been enabled to watch for nearly two years, and it is satisfactory to know that the good effects in them have been permanent.

Glycerine is particularly useful in deafness following eruptive or other fevers; also in deafness arising from thickening of the drum, caused by an epithelial deposit. In the last-noticed condition, glycerine separates the epithelial excrescence, and thus restores the membrane to its natural state and appearance. Sir Astley Cooper, who at an early period of his brilliant professional career devoted much attention to diseases of the ear, used *nitrate of silver* for effecting a separation of the cellular formations in these cases. But the glycerine, perfectly innocuous, is a more effectual, and at the same time a safe, remedy. When the drum is perforated, the glycerine must be only applied to the walls of the meatus, care being taken not to use a sufficient quantity to admit of its being introduced or forced into the tympanic cavity. Should such an accident occur, tepid water ought to be immediately syringed into the ear, and the operation repeated three or four times. In this way the glycerine would be quickly removed.

In only one instance have I seen the glycerine produce pain or annoyance on its first application. A gentleman whom I saw in consultation with Mr. Guthrie suffered most acutely from the introduction of the remedy into his ear. A repetition of the operation was attended with a similar result. This is the only instance of the kind that I have witnessed. There was in that case a thickened tympanum, and an absence of cerumen. Apparently there was neither excoriation nor inflammation. The second application of the glycerine was made two days after the first. The effect precisely corresponded with the result in the first instance. It is almost needless to observe, that there was no repetition of the operation. The patient was highly nervous and excitable. Still I must confess that the cause of the pain felt by that gentleman remains entirely unexplained. In not another instance have I known any untoward event result from the introduction of glycerine into the human ear.

In old age there is usually a deficiency of cerumen, and the action of the glycerine is then very marked. It affords much comfort by allaying "irritation," which is the invariable distressing accompaniment of a dry meatus. The tinnitus in the ears is also frequently relieved by the soothing effects of glycerine, where that noise is occasioned by a dry meatus. At the same time, it must be remembered that many distressing cases are due to abnormal conditions of the brain, nerves, heart, or bloodvessels.

The object of delivering this lecture is simply to confirm the reputation of GLYCERINE, and enlarge the boundary of its usefulness. For the relief and removal of some forms of deafness, GLYCERINE stands alone as a remedial agent. With a due perseverance in its employment by careful practitioners, it will often be the means of removing a distressing affliction.

It has been stated by some writers that Glycerine is an *oily* fluid, and therefore that it is open to the objections that have been urged against oils. But you well know that it is not an oil, and cannot be classed with oleaginous substances. Let me remind you of its chemical properties, and of the method adopted for obtaining it. It is found in fatty oils combined with oleic, stearic, and margaric acids; its specific gravity is 1.252. Glycerine is a syrupy liquid, miscible both with alcohol and water, insoluble in ether, slightly inflammable, inodorous and of a sweet taste.

The most convenient mode of preparing it is by the saponification of olive oil, by means of litharge and a little water. Sulphuric acid will separate the oily matters, leaving an aqueous solution containing the alkaline salt along with the glycerine. The mixture is evaporated to dryness, and treated with alcohol, which again dissolves the glycerine, and leaves the alkaline sulphate undissolved. The glycerine may be purified from oxide of lead, by passing through it a current of sulphuretted hydrogen.

OBITUARY.—Died, at Hastings, on Saturday, the 8th instant, Dr. Mackness: his abilities were of a high order, his knowledge of his profession was equally scientific and practical. He was a great stethoscopist, and well acquainted with all the resources of the *Pharmacopœia*. But the grand distinguishing features of his character were, his active benevolence, and a keen sense of the honour and dignity of his profession. He was devoted to his profession; but when he obtained any relaxation, he enjoyed the beauties of nature with all the gaiety and freshness of a child.

A Lecture

ON

SOME OF THE MORE IMPORTANT POINTS IN SURGERY.

(*Delivered at the Royal Westminster Ophthalmic Hospital.*)

BY G. J. GUTHRIE, ESQ., F.R.S.,

Late President of the Royal College of Surgeons of England.

Arrangements at the Royal Westminster Ophthalmic Hospital. Purulent Ophthalmia. The so-called Egyptian Ophthalmia irrespective of Climate or Country: instances in proof. Ophthalmia of infants. Case of fungus, and present restoration of health. Characteristics of malignant cells (with engravings.) Fungus in the eye, and advantages of early extirpation. Examination and engraving of a tumour in the eyeball. Other cases. Differences between melanosis and fungus hæmatodes. Proof of the reproduction of the lens in the human subject.

THE report of this Hospital for the year 1850 has been made up and presented to the committee. 4954 persons have been admittted to the benefits of the charity, of whom 160 have been in-patients. The number of operations of all kinds has been considerable, and particularly successful. They will become the subject of subsequent lectures. The hospital underwent in the summer a thorough repair; every addition that could be made which might improve the comfort of the patients, was made, and the building may be viewed as a model hospital calculated to hold thirty in-patients, and to give relief to as many out-patients as may attend. It wants but one thing essential, and that is money, which prevents more than twenty persons being received into it at one time; and these only for operation, or under very urgent circumstances. When others are admitted, and from the country, those who apply for them pay ten shillings a week. The diet is ample, and strictly regulated, the accounts are made up weekly, and approved by me; no medicines are obtained without my signature, and, in fact, nothing is done without my sanction, during the interval between the monthly meetings of the committee.

The in-patients are under my immediate care, and a report is made to me every morning by eight o'clock of the state of every operation of importance, whether they have been performed by myself or by the other surgeons, Mr. Gardiner Guthrie, or Mr. Hancock, which gentlemen, with the assistant-surgeon Mr. Canton, take charge of the out-patients, who are all seen three days in the week, and the serious cases daily. The expense has been calculated by Mr. Lewis, himself a surgeon to a dispensary, and who for the last few months has been attending the practice of the hospital; and he finds that more is done for little more than half the money than in any other hospital or charity in London; whilst everything, to say the least of it, is as well done as anywhere else; and all this, he says, without any *cooking* of returns or reports. Every one, male and female, is strictly kept to his or her duty; and if any persons, governors or otherwise, should see a defect, and will point it out, they may be assured that the committee of management will rectify it with the least possible delay. There is a book kept for the insertion of donations, suggestions, or complaints.

I make this statement because this is the first year in which I could conscientiously say the hospital could stand alone—that is, exist without my superintendence; and it will be the fault of my associates, if it does not now progress with more than equal steps to what it has done during the last few years. The assistant-surgeon is appointed by me, and approved of by the committee; he is removable at their pleasure on my recommendation; the two surgeons have hitherto been appointed in a similar manner, each appointment being approved of by a general body of governors, summoned for the purpose. No men could have gone on more cordially or happily than they have done with me, and whenever they shall find their duties too onerous, they will, I have no doubt, make way for others whose time may not be so much employed. Every person, by the laws of the hospital, must become a consultant on completing sixty years of age, and my resignation is in the hands of the committee, to be made available, whenever they may think that the interests of the hospital require it. I proposed and carried a law at the Westminster Hospital many years ago, and which has been since adopted at St. George's, and will be, I trust, everywhere else, that no surgeon or physician should remain in the active exercise of his profession at the hospital after sixty-five. It is not, I regret to say, attended to by the committee, and I cannot see my own law carried into execution, because it unfortunately happens that I might and should be immediately charged with interested motives, and I am obliged, therefore, to allow the public interests to yield in this to my own private feeling; I nevertheless always maintain there, as I do everywhere else, that hospitals were not created for physicians and surgeons, but that physicians and surgeons were made for hospitals, and that when they cannot do the duties of their office, from any cause whatsoever, in such manner as the interests of the sick poor demand, they should make way for others who can. If the surgeons at present holding offices here, should fail in their duty, (which I am satisfied they will not,) I shall not have the least hesitation in recommending their removal to the governors; and I earnestly hope that the treasurers of this hospital will never hesitate to act in a similar manner when they see occasion for it. There is one point on which some amendment may take place: a clearer and more instructive Annual Report on many subjects than that which is now made, is wanting—a defect which will, I hope, be remedied in 1852; one object of the present lecture being to pledge the officers of the hospital to its production; in doing which there neither is, nor ought to be, any difficulty, beyond that of the time and attention required, and to which the governors and the profession are entitled from them.

This hospital set the example of receiving all persons on their own application, constituting what is called a "free hospital," and for which other institutions now take a credit which does not belong to them. I recommended its adoption, in the first instance, from the circumstance that numbers of infants soon appear, after birth, to have what nurses call a cold in their eyes, but which is a complaint derived from the mother, whether moral or immoral, princess or peasant. Eyes so attacked are generally lost in a few days, if neglected, although such loss is only an exception to the general rule of their being always saved, when early and properly treated. It was therefore of importance that the poor should be able to obtain assistance, without the necessity of seeking for a governor to obtain a letter of admission, which often occupies several days. When the mother catches the disease from her own child, or the nurse who has the care of it, the complaint, becomes, in them, infinitely more formidable, and the mother and the nurse will often lose their eyes under a treatment similar to that by which those of the infant are cured in all their integrity. The complaint, thus originating, is awfully contagious, and will more properly be the principal subject of a future report. It is this disease which renders children fit objects for the numerous charities and schools which have been instituted for the blind,—which, in fact, furnishes most candidates for them; and it is a subject deserving the consideration of all philosophic as well as philanthropic persons, whether it may not be better to prevent the evil, as far as it may be possible, on its first occurrence, rather than to suffer from its ravages, and then to endeavour to soften down the miseries it has inflicted, by the establishment of asylums for the future comfort of these unfortunate persons.

When this hospital was established, in 1817, and for years afterwards, there were numerous pensioners from the army, and some from the navy, blind, or nearly blind, always in want of assistance, who had no means of obtaining letters of admission; and it was their constant applications and claims on me which led, in fact, to the first formation of the hospital, which has always been open for the instruction of the medical officers of all branches of the public service; and it has in these ways rendered very valuable service to the public.

The question of these pensioners of the army, who still frequently apply for assistance, is one of a most important and interesting nature, which I have never hitherto ventured to approach, because it might have distressed the feelings of some and offended those of others, for whom I have the greatest respect. These pensioners have usually been considered the victims of a peculiar disease, acquired by the troops who served in Egypt, because some of the regiments which returned from that country had serious complaints of their eyes, which were found to be communicable to others.

The disease was therefore termed Egyptian ophthalmia, and its essential character was, its being accompanied by a *purulent* discharge, followed by a thickened and granulated state of the inside of the eyelids, which latter obtained for the sufferer a pension, to say nothing of the loss of eyes which very frequently followed the former. This complaint is now rare, but when the British army shall again amount to 200,000, and be placed under circumstances similar to those which occurred from 1804 to 1819, it will prevail again among them, although no one individual of the whole shall ever have been within 500 miles of Egypt. The origin of a new or peculiar disease from Egypt was an involuntary delusion, for an inflammation capable of inducing these consequences is indigenous to all other countries, as well as to Egypt, and to every part of the ocean. It has occurred in them all when numbers of persons are massed together under circumstances favourable to its production, which may be included under one head, that of *mismanagement;* but this I do not presume to describe for the reason assigned.

It was once said, by authority, that these Egyptian sore eyes had oftentimes rendered many regiments ineffective, had occasioned great loss of men, and had cost the country no less a sum than £60,000 a year in pensions. If some M.P. would move for a return of the total sum paid in 1820, in pensions, on account of defective sight, and in the year 1850, matter would be found for reflection, which might be of future advantage. For my part, I have only, like Cassandra of old, the gift of prophecy, and have like her to enunciate my supposed warnings to an auditory who are not allowed to believe that all which has taken place will again occur, and may be in a great measure obviated.

I may be permitted, however, to give you a few medical hints for further investigation.

1. A committee of the House of Commons was constituted in 1821, to inquire especially into the propriety of maintaining an establishment for the cure of pensioners suffering from the destructive inflammation imported from Egypt. The *cheval de bataille* of the claiming party, the *experimentum crucis* of their philosophers, was to show that this dreadful disease had even reached the army serving in Spain. A sergeant of the 40th regt. was produced, who had been sent from that army in 1812 with this disease, and had only of late received some relief. The man, who was well taught, commented strongly on the harsh treatment he had received, and especially from the general doctor. It happened unfortunately for all the claimants, that the general commanding the division in 1812 was a member of the committee, and that the harsh general doctor and the surgeon of his regiment were present at the inquiry. They all three proved that the purulent disease, misnamed Egyptian, never had been seen in the division; that the man had been attacked by a common catarrhal inflammation, the consequence of exposure to heat and moisture; and that he had been ordered from his regiment, not from the nature of his disease, but that as a sergeant was wanted to accompany a detachment of sick going to the rear, he was sent instead of a more effective man. It was further proved, that no other man with sore eyes was sent away, that very few suffered in a similar manner, and that the complaint soon disappeared altogether, under the severity of discipline which was maintained. The evidence was so complete, that it went far to settle the inquiry, the decision being against the claimants. At the end of thirty years, I may be permitted to say, without impropriety, that all the gentlemen of rank who supported the claimants, and they were many, were honest in their belief, although ignorant of surgery; and it consequently never occurred to them, that if this case, on the accuracy of which the claim principally rested, was proved to have no foundation in fact, all the others of a similar nature were, in all probability, equally unfounded. The indigenous complaint which this man suffered from, might have occurred in a similar manner to most of the others attacked in various countries, and it did so. *Mismanagement* did the rest.

At the present time one or more union houses in Ireland[*] are infected with an indigenous catarrhal, or an Egytian ophthalmia, if it be so pleased to term it, (although the disease prevailed in Ireland long before the British army went to Egypt,) that will, if neglected, do as much for every individual attacked as it did for the serjeant of the 40th regiment. Two gentlemen of great anatomical and surgical acquirements, well acquainted with diseases of the eye, have written papers on the subject, recommending, it seems to me, somewhat different modes of practice. I speak indefinitely, that I may not give offence; but I have no objection to prophesy, although, to be oracular, one must be enigmatical; and the prophecy is, that as the complaint has arisen from the *mismanagement* of the poor-law commissioners and the officers under their orders, so will it only be effectually removed by them, and not by the doctors, although they will give them essential aid. I wish I had influence enough with some philanthropic member of Parliament to induce him to call for a quarterly report from the commissioners of what they had done and were doing. The records thus obtained would be of essential service somewhere between the years 1860 and 1880, when there may be a continental war, and the British army shall number something like 200,000 men; for diseases of this nature have occurred, and do continually recur, in their worst form in every European army; the last destructive one known to the world at large lately befel the Belgian forces.

2. The true purulent diseases are three—viz., that of infants occurring at their birth, that of the adults who are infected by them, and that occurring from gonorrhœa; and they do not give rise

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[*] It is said, that of 340 cases examined in one place, in August last, sixteen persons had irrecoverably lost both eyes, which were nearly lost in two more; thirty-two others had lost one eye each; in thirty-three others, the sight of one eye was so affected as to impair, if not altogether destroy, vision; and in six others, both eyes were in a similar condition. The total number attacked was 2068.

in a similar manner to that granular state of lids which occurs so constantly in the common catarrhal inflammation, and especially in that concentrated form which has infected at different times troops confined in barracks and children in poorhouses. This is a distinction which has not hitherto been made, and one to which the attention of the profession is drawn, in order that it may be confirmed, if true. There are at present twelve infants attending at this hospital with purulent ophthalmia in its different stages; they neither have nor will have a granulated state of the eyelids, with one exception; nor does a man, whether gentle or simple, when he loses even one or both eyes from gonorrhœal inflammation, usually suffer from granulated lids. Something must be superadded to effect this serious evil.

Whilst there are only twelve infants or adults suffering from purulent disease, there are more than sixty persons afflicted with the different stages of granular disease, the consequence of common, of catarrhal, and of erysipelatous inflammations.

3. It is possible that some of the most destructive diseases which at times prevailed, were, in their origin, *factitious*.

A free hospital is subjected to some inconveniences as well as advantages. Many persons in good circumstances are not unwilling to apply for assistance out of pure avarice, who would be ashamed of asking a governor for a letter as a matter of charity. People of this kind come in all sorts of carriages, from a post-chaise to a donkey-cart, dressed out in gold chains, watches, silks, satins, feathers, muffs, and boas, acknowledging often their ability to pay a doctor, but thinking they can have better advice for nothing; and, worse than all, many such persons are sent by medical men. The secretary makes all these people pay to the poor-box if he finds them out; but many take various means of deceiving him, and do it, complaining loudly of ill treatment if they are discovered. Many persons who have seen better days do, however, apply honestly, and honourably state their ability to pay a moderate sum if taken into the hospital; and the committee have fitted up two small rooms for decayed gentlefolks, in which such persons can be received, and of which rooms I am permitted to make use when unoccupied in any case requiring operation, and of which I availed myself in the case of Mr. W., whose case was reported in THE LANCET recently, as having lost his thigh at the little trochanter. He came to me in consequence of my having amputated at the hip-joint successfully, but could only afford to pay five pounds. Well, the hospital found him a room, his five pounds paid for an extra nurse, and I pay for his food. He has gone out well, says he is about to be married, and I hope the cure may be permanent. This involves a point I shall advert to—viz., how far diseases of an encephaloid or fungous character are in the first instance *local*.

Mr. Quekett, in supplying the accompanying microscopic sketch of the disease, has added the following remarks to those already published in THE LANCET by its own reporter.

The tumour is composed of nucleated cells of two kinds, one of a more or less circular figure, larger than the cells of pus or mucus; these constituted the greater portion of the bulk of the tumour (fig. 1.) The other cells were of oval figure, in some cases four or five times the size of the first, but all of a dark colour, and full of black granules; these large cells were only occasionally to be met with (fig. 2.) In their fresh state they presented the appearance represented by *a b*; but after they had been acted on by spirit they became more tuberculated, as shown by *c c*.

FIG. 1.

Real Cancerous Cells.

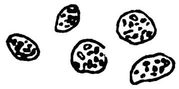
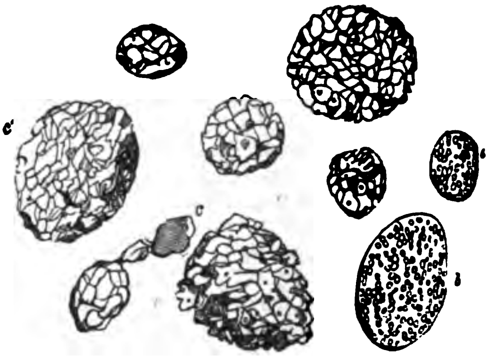


FIG. 2.

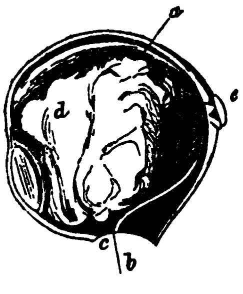


Mary H——, aged eighteen, in April, 1850, received a slight blow on the left eye, which gave her little uneasiness; but a fortnight after, she found she could not see, and came to the hospital, and was cupped twice, there being some signs of internal inflammation. Not improving, she stayed away three months: on her return, the fungoid disease was sufficiently marked, by the yellowish metallic spot at the back part of the eye, the fixed and dilated pupil, severe aching pain in the eye and forehead, which prevented her sleeping. The disease gradually advanced, and the sclerotic coat began to bulge, when she assented to the operation of removing the eye, which was performed on the 6th of October, by Mr. Hancock. When she had quite recovered, at the end of six weeks, an ounce of blood was drawn from the arm, and submitted to the microscope, but no cancerous globules could be perceived in it. She is now, (the 30th of January, 1851,) quite well, and free from all pain: the eyelids are closed, and there is a little watery discharge occasionally. Health good.

Examination of the Eye.—Immediately on the removal of the eye by Mr. Hancock, it was examined by Mr. Quekett. The optic nerve, lachrymal gland, fat and muscular tissue, were found to be quite healthy; the globe was altered in shape, there being a protrusion upwards and outwards of the sclerotic coat. When the globe was divided vertically, the line of the incision being through the projecting part, an elongated oval tumour was found lying diagonally across the globe; it was firmly adherent to the retina at its under part, and appeared to have taken its origin from that part. The optic nerve was healthy, the tumour being situated a quarter of an inch from its entrance into the globe; the choroid coat presented its usual appearance; it could be separated very easily from the sclerotic, even at a point opposite to that from which the tumour was developed, showing that the tumour was not connected with this coat; on the inner surface of the choroid the retina was observed; at its posterior part it presented a healthy appearance, near the iris on the under part it was much thickened, and it was thickest at the point from whence the tumour was developed; there was no adhesion between the retina and choroid. In making the section, a quantity of fluid escaped from the back part of the globe; this subsequently appeared to be disorganised vitreous humour, for when the eye was placed in alcohol, all that portion of the humour situated between the tumour and lens was firmly coagulated. The lens was of the usual shape.

Examination of the Tumour.—When a portion of the tumour was examined with a power of 250 diameters, it was found to consist of cells, of a more or less round figure, much larger than the corpuscles of pus, and full of granules; amongst them were others of larger size and darker colour, and also full of granules. There was no areolar or other tissue connecting the cells together. The tumour, from this examination, would appear to be of a fungoid nature, mostly resembling that known as medullary sarcoma; cells of the nature shown in the diagram being essentially malignant, in whatever texture they exist.

FIG. 3.



In the drawing (fig. 3) is shown a section of the globe after being hardened by alcohol. The tumour is represented at *a b*, the projection of the sclerotic at *c*, the coagulated vitreous humour at *d*, and the optic nerve at *e*.

The cells of which the tumour was composed are shown in fig. 1.

In this case the disease was confined to the inside of the eye, and the optic nerve was not implicated. It may, then, be doubted whether the complaint arose from constitutional or local causes, a point of the greatest importance, and one of the greatest difficulty, more especially as there is a disease commencing apparently in a similar way, and having the same appearance unto a certain point, which is assuredly not malignant, inasmuch as it ceases to extend, and becomes quiescent. Some thirty years ago, I entertained the idea that the complaint was always constitutional, and that such patients must die of it, which they did by the bulging of the eye, and its subsequent ulceration, when a fungus protruded, which destroyed the individual by repeated hæmorrhages, accompanied by great pain. I was therefore induced to try whether the removal of the eye at an early period might not do something by way of arresting the progress of the disease; and in the case of a child, in whom I had then do doubt of the presence of a malignant disease, I recommended the early removal of the eye. The father refused, and took his child away, as I thought, to die. Some ten years afterwards, I met the father, and saw the child, who had remained nearly in the same state. I have since seen other cases of a similar kind, and am obliged to admit, that at present I cannot distinguish the mild from the malignant disease at an early period, and do not, therefore, advise any operation until it has advanced so far as to admit of no doubt of its nature. This delay should not extend beyond the change in the appearance of the lens, its advance against the cornea, and an alteration of the colour of the sclerotic coat, showing the disease of the choroid behind it. The operation, at this point, need not include any part except the ball itself, for no part external to it is diseased; and the extirpation should be confined to the division of the muscles of the eyeball, close to their insertion in it, the vessels which pass into it, and the optic nerve. The levator palpabræ should be preserved intact, and hope entertained of preserving its power of motion over an artificial eye; an operation which, if found successful, will be a great improvement on that by which every part in the orbit is taken away, and which appears, as far as I have seen, to be of no use, for when these parts are implicated, the disease has subsequently extended into the brain, and destroyed the patient. I have never seen a case of eventual recovery, when the parts external to the ball were really implicated. The operation is in these cases done too late, and should not be done at all. Mary H. is an unsightly object, and I shall keep her under observation, in order to mark the result.

There is a child of three years of age attending at the hospital, whose *left* eye is suffering from this disease, which has advanced to the point at which I should have recommended its extirpation by the operation alluded to, if it were not that a similar disease is commencing at the bottom of the right eye. The history is as follows:—

E. K., a twin child, born at the seventh month, aged three years, a healthy-looking, rosy-cheeked child, is stated by her father never to have suffered from illness, until eight months ago, when she had inflammation of the lungs, accompanied by great and continued pain in the left side of the head near the vertex. She cried incessantly, and frequently screamed out as if she were in great agony; on being asked where the pain was, she would place her hand on her head. She did not have any fits. At the expiration of a fortnight, she was considered to be well. Since this period, she is seized about once a month, with insensibility, complaining always of her head, when asked what ails her; and at this time she often shrieks out and cries violently. After the illness mentioned, the sight was noticed to become dim in the left eye, and the father perceived the same appearance in it, which is at present so distinct in the right one (a bright yellowish opacity.) For the first time, about three months since, the right eye was seen to present the same character. She has now no sight in either eye. Within the last two months she has gained flesh; her spirits are very lively; appetite very good; bowels generally very regular; sleeps well, except when she has the attacks of head complaint, and then her rest is frequently disturbed by starting, crying, and screaming. The parents are below the middle age, and quite healthy.

On looking at the right eye, the pupil (even in the light) is seen to be dilated, and there is about midway between the iris and the back of the retina, a slightly concave stratum of substance, having the characteristic appearance of fungus before it has arrived at and pressed upon the lens. This yellowish, metallic-looking material appears to be inclined obliquely from the nasal to the temporal side of the eye, and is evidently permeated on the surface, at two points, by bloodvessels, which present an arborescent character, and extend nearly half way across its anterior part. The conjunctival vessels are not enlarged.

The occurrence of the disease in both eyes at the same time would seem to show that the complaint was not local. It does not prove, however, that in all cases it is constitutional, nor does it appear to me to forbid the patient having the chance offered, of its being of local origin, and consequently removable at an early period with some hope of success; for my experience has satisfied me, that although malignant diseases, when they run their course, are destructive of life, some which appeared to have been of that nature have been removed without being followed by a return of the complaint in any other part. Microscopic examination is likely to do much in elucidating this subject, and if it should be *proved* that a malignant disease may have a local as well as a constitutional origin, it will be a question of great interest to ascertain how long it can continue a local disease without implicating the system at large.

I am aware that fungus hæmatodes and melanosis are considered to be diseases propagated by absorption; and that the blood being thus contaminated, the disease may appear in any part of the body at an early subsequent period of time. I fear that this is true with respect to the disease called melanosis, but I trust it is not so with regard to fungus hæmatodes. Melanosis does not *usually* appear to affect all the structures of the body, but *only* their vascular membranous parts; I have seen, after extirpation of the eye-ball and the death of the patient, the membranes of the brain affected in several places, but not apparently the substance of the brain itself; the liver and lungs being similarly implicated. This is a remark which may not be found to be accurate, and I have not lately had a case to submit to the microscope, which would establish the exact fact.

There is in the museum of the College the half of a testis, the subject of fungoid disease, which I gave to Sir Astley Cooper, the owner of which lived several years after its removal, and may possibly be alive now. There is another, caused by three pellets which entered it whilst the owner was out shooting, and was certainly, therefore, of local origin; nevertheless the patient died within half a year after its removal, from the disease having extended to the lumbar glands. I am aware of a case, at this moment, in which a similar termination took place at the end of three years.

M. A., between forty and forty-five years of age, a strong, stout, and apparently healthy woman, perceived a small lump in the under part of her right breast, about the size of a hazel-nut, which became painful, and began to enlarge. As her mother had died of cancer, she was anxious to have it removed; and being very respectable, although poor, I admitted her into the room for females above alluded to, and the little tumour was removed by Mr. Gardiner Guthrie. It was cancerous, and the diagram (fig. 2) represents the cells, as well as one set of those seen in the case of amputation. Blood drawn from her arm, after she was cured, did not show signs of such disease. Cells similar to those described in fig. 2 are sometimes perceptible in the venous blood of such persons, although Mr. Quekett believes it must be taken from veins in the neighbourhood of the affected part to be decisive on that point.

In conclusion, I am disposed to say, as the result of my experience, that when a tumour occurs in persons supposed to be otherwise in perfect health, and a reasonable suspicion exists of its being of a fungoid or cancerous nature, it should be removed as early as it is discovered by competent judges. When in the breast, and so large as to be attached, by cellular or areolar structure, to the pectoral muscle, although quite movable, and the glands in the axilla and under the edge of the pectoral muscle, or above the clavicle, are apparently unaffected, the operation is not often ultimately successful, and assuredly not if the areolar structure covering the pectoral muscle is discoloured by it. When the disease has been unobserved or unattended to for years, it is better left alone, particularly if in a chronic state, the patient probably living longer than if it be meddled with.

The discovery that the lens can be reproduced in the human subject after having been removed by absorption after the operation by division, is due to this hospital. In 1834 I published the following case in a pamphlet on the operation by extraction:—

"Anne W., aged twenty-three, came under my care nine years ago, when fourteen years old, having congenital cataracts of both eyes, on which I operated with success. Some circumstance induced her mother to go out of town suddenly, before the eyes were quite clear, and I did not see her again until the 11th of March last, when a small portion of capsule appeared to impede vision at the lower part of the pupil of the right eye, the left being quite free. Supposing that the removal of this portion of capsule would improve her sight, I proposed it to her, and on doing it, I found, to my great surprise, that the lens had been reproduced, and was quite transparent. It became, of course, opaque, and dissolved in the usual manner."

Some gentlemen of literary repute have lately written negligently, that the reproduction of the lens in certain animals, such as cats, rabbits, &c., has been observed, but not in man. Wherefore I allude to it, that they may not again fall into this error.

AN ACCOUNT OF CASES OF CHRONIC LEAD POISONING, CAUSED BY DRINKING WATER KEPT IN A LEADEN CISTERN.

By James Robertson, M.D., F.R.C.S.,
Physician to the Infirmary, Hitchin.

The school in which the following chronic poisoning by lead occurred, consists of about twenty girls, who have all the advantages deemed requisite by the poor-law authorities for the preservation of health. They were well clothed, kept scrupulously clean, had well constructed and efficiently managed dormitories, took regular and sufficient exercise, and their food was of good quality. Nothing appeared obnoxious to objection, notwithstanding which, for several months the children were not in good health. I was long unable to account for this, for the other inmates of the establishment appeared subject to like circumstances, yet were well. Most of the girls lost the colour of health from their faces; they became pale, puffy, and dark under the eyes; their appetites failed, but few, if any, were thinner than before; many had offensive breath; some were frequently ailing, some had tumid abdomen, some occasional diarrhœa, some obstinate constipation; their faces were smooth and clay coloured; their urine was unusually plentiful and limpid. The whole school had evidently declined in health, which was remarkable, for the system was one which had been tried for many years, and the children had been commonly healthy. I may mention, by the way, that the establishment was visited, some time since, by a medical practitioner in this neighbourhood, who spoke favorably of the health of the girls, and reported them as being in better health than the boys (for there is also a boys' school under the same roof;) though persons of the establishment were not able to perceive any difference, and considered both schools healthy; but I adduce this to show that their hygienic management was compatible with, not to say conducive to, good health.

However, for several months the general health declined, and for this no cause was apparent; their diet was varied and improved without benefit, and as for medicines, only purgatives appeared of use. When this state of affairs had existed for a while, one girl complained of head and belly ache; she was depressed; at times delirious; temples throbbing; pulse 130, feeble; skin hot and dry; no appetite nor thirst; respiration slow and sighing; epigastrium tender; tongue red at the edge, a brown fur down the centre; bowels constipated; urine plentiful and limpid. Aperients produced plentiful, dark, and very offensive dejections. In a few days she was convalescent, but she remained long very debilitated, and had frequent faintings. Her face was dusky, I might say purple; her lungs acted well; there was no cough; I could not find any unnatural sound in her chest by auscultation or percussion. This case was followed by several others, with some or all of these symptoms; head and belly ache; loss of appetite; sickness; rapid pulse; hot, dry skin; flushed, dusky, countenance (two very dark;) confined bowels; fæces pale; urine plentiful, pale; tongue flabby, tremulous, edges red, and indented, a brownish fur down the centre, speckled with enlarged red papillæ; gums generally pale and spongy. Several had fits, described as being hysterical; some had faintings; the majority had a relapse, and some even three times.

These illnesses caused me again very carefully to scrutinize every possible cause. The food and water were repeatedly examined, but the other inmates were known to take the same without any like effects being produced—at length, the lead cistern which contained water for the supply of the girls' washing-place attracted my attention, though I was assured they never used this water except for washing; however, I thought it probable, as the place was convenient for the play-ground, that they did drink this contrary to orders; and so it proved. They were in the constant habit of drinking this when they had no fresh well-water at hand. The water the cistern is supplied with is yielded by a well sunk in the chalk; it is very clear, sparkling, loaded with free carbonic acid and chalk. On opening the cistern, I observed the surface covered with an iridescent film, broken at the edges, and at the part opposite the tap there was a clear, pear-shaped surface, the point at the tap indicating that a portion of this film had been drawn through the tap. The corner seams and bottom of the cistern were covered with a large quantity of white, heavy matter, which I afterwards ascertained, by analysis, to be chiefly carbonate of lead, with carbonate of lime. I next examined the filtered water, and found a very small quantity of lead in it, so small, that at the first analysis made at my request, it escaped detection; but I afterwards obtained ample evidence of its existence in several portions of the water which I analyzed.

I also carefully analyzed the evacuations of the children, but could not detect a trace of lead. The cistern was cleansed, care being taken that the water out of it should not be drunk, and the health of the school had three weeks afterwards much improved, and no fresh attacks had occurred.

REPORT OF A

CASE OF PARALYSIS OF THE RIGHT AND CHOREA OF THE LEFT SIDE.

By C. J. B. Aldis, M.D. F.R.C.P.,
Lecturer on Medicine at the Hunterian School.

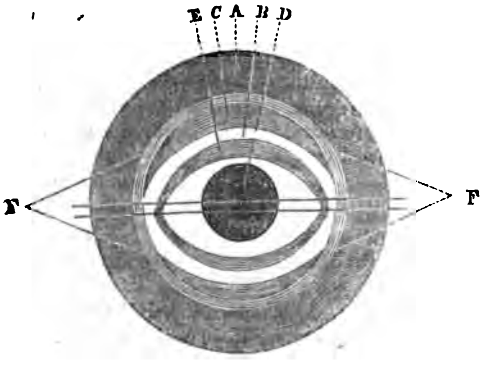
A boy, aged five, residing at 31, Rochester-street, Rochester-row, Westminster, is now a patient at the Western Dispensary, on account of irregular motions of the left arm and leg, with frequent protrusion of the tongue which he occasionally bites. There is also paralysis of the right arm, with slight flexure, and of the right leg with loss of speech. The paralytic symptoms have existed for two years, and succeeded a fit supervening upon scarlet fever. He was quite insensible, and received attendance from the above dispensary. He recovered from the fit, which probably arose from effusion causing pressure upon, or injury in, the left hemisphere of the brain, which has occasioned the paralysis of the right side. The coincidence of paralysis and chorea in the manner just described is very rare, and the contrast between the loss of motion of one side and constant agitation of the other is very remarkable.

OBSERVATIONS ON THE ARCUS SENILIS, OR FATTY DEGENERATION OF THE CORNEA.*

By Edwin Canton, F.R.C.S.,
Consulting-Surgeon to the Kent Ophthalmic Hospital; Assistant Surgeon to the Royal Westminster Ophthalmic Hospital.

Part II.

The Arcus affected by Disease.—We occasionally find the cornea attacked by ulceration at the site of the senile zone, and it is the upper portion of it which I have noticed to be usually affected; the complaint, however, is not of frequent occurrence, and takes place, for the most part, in persons of debilitated constitution, who have led irregular lives, and are the subjects of chronic rheumatic complaints; in persons whose vital powers are enfeebled, and nutritive functions impaired. The ulceration ordinarily follows the curve of the arc, and extends most deeply at its central part; small ulcerated spots may be sometimes seen towards the cornua of the arc. The exposed surface is jagged, and presents a greyish hue; no red vessels pass to it, but should the eye be attacked by cold under these circumstances, a general vascularity suffuses the globe, and closely approaches the disease by extending into that portion of the conjunctiva, *C*, which overlaps the sclerotic, *A*, but without implicating the clear portion of cornea, *B*, immediately enclosing the arc, *E*. There is no pain or intolerance of light. In some cases slight vascularity may be noticed from the onset of the complaint, presenting a dusky red or congestive hue. The consistence of the eyeball may be increased, and an aching or obtuse pain be complained of at night in the globe. The sclerotic appears thinner than natural, and especially so over the *sinus circularis iridis*, where a *bluish circle*, *F*, marks its situation immediately external to the whole of the senile zone. The subjoined diagram may serve in explanation of the parts referred to:—



This bluish ring, however, is not unfrequently to be seen in the aged, where ulceration is absent in the arcus senilis, but the eye has suffered slow, insidious disease, and its function has become, by degrees, additionally impaired by the hand of Time. A faint trace of the circle may be noticed, even under more healthy circumstances, and becomes more apparent still, by contrast, when the overlapping conjunctiva is more than usually opaque. Middlemore has truly remarked, that "this ulceration is by no means so manageable by treatment, as similar diseases situated in other parts of the cornea." The most advisable plan of treatment I have found to be, the administration of small doses of tincture of aconite, with the wine of colchicum, at the same time that the powers of the constitution are being renovated by tonics and generous living. Alterative doses of blue pill, occasionally given, will prove beneficial. With respect to local applications, a drop of a solution of the nitrate of silver (one grain to the ounce) placed between the lids two or three times a week, will be all that is necessary. I have sometimes thought that a blister behind the ear has been of service.

Section of the Cornea through the Arcus in extraction of Cataract.—The general statement of ophthalmic writers is, that the cornea heals after the operation as readily as when it has been incised through a sound part. In this opinion I am not inclined to agree, and believe that those cases give least trouble; that reunion takes place less tardily, where the unaffected portion of the cornea, immediately within the arcus has been the part selected for section. I may state, that Mr. C. Guthrie, whose experience on this point commenced several years earlier than my own, fully coincides with me in this opinion.

Capsule of the Lens affected with an Arcus.—Von Ammon states, that in the dissection of eyes affected with the arcus senilis, he has found a corresponding opaque change in the circumference of the lens or capsule; more frequently in the latter. When the lower half of the cornea only has been implicated, the internal opacity has been confined to the inferior portion of the lens or capsule.* I may add to the above statement, that this appearance must be extremely rare, and I believe its occurrence (?) to be purely accidental; for in the large number of dissections which I have made of the aged eye, I have never seen the capsule of the lens to be otherwise than perfectly transparent in every part, whilst the lens itself presented that yellowish hue, only, which characterises it in an old subject, and having its deepest tint at the central part. Von Ammon's account finds generally a place in ophthalmic works, and extended observation alone has induced me to offer my testimony respecting its value.† I may again mention, that *the anterior and posterior layer of the cornea I also find to be never involved in the fatty degeneration producing arcus senilis.*

Peculiarities.—Though the upper arc is, as a very general rule, the first to make its appearance, we may sometimes notice that the lower one becomes sooner of a more dense white colour than the one above it. In such a case, fatty degeneration will be found to have most deeply involved the cornea below. Such instances, however, are unusual. Occasionally, the clear space inclosed by the senile zone, in place of presenting an illeptical form, will be more nearly circular, but still having its centre below the middle of the pupil, in consequence of the greater encroachment of the upper and first-formed arc. Another peculiarity may be mentioned—viz., the opaque zone shall present no more breadth above than below, but the centre of the pupil will occupy the same relative situation as in the last case. This will arise from the circumstance of the inferior are being placed nearer to the sclerotic than is the upper one to the same tunic; and hence, in such an instance, we are prevented seeing the iris through the corneal rim outside the lower arc, whereas it is readily discernible above, between the arc and overlapping sclerotic. I have stated, from my own observation, and upon the authority of ophthalmic writers, that though an arcus may extensively invade the cornea, still it invariably stops short of interference with vision; but the following exceptive case, by Mr. Mackmurdo, has lately appeared, and may be regarded as both interesting and unique.

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* "On suppose, et je crois avec raison. que cette opacité circulaire résulte d'un défaut de nutrition."—Magne, *Gazette Medicale*, 1845.

"C'est une grande loi de l'économie, en vertu de laquelle tous les fois qu'un organe tend à s'atrophier une matiére graisse vient à secrétér autour de cet organe, ou à la place de ces molécules."—Andral, *Anatomie Pathologique*, vol. ii. p. 607.

* This change has been delineated by Von Ammon in his Klinische Darstellungen, part i., tab. ii., fig. 1 & 2, of which the former represents an opaque half-circle in the anterior, and the latter a nearly complete circle in the posterior, part of the capsule.—Lawrence.

† 'La cornée, le fait parait hors de doute, n'est pas la seule partie de l'œil qui soit sujétte à cet anneau blanchâtre; l'auteur que je viens de citer (Dr. Schön) a observé un cercle de même nature occupant la capsule posterieure. Avant lui, le docteur Ammon avait établi que parfois on trouve sur le cristallin, une zône analogue à celle qui existe sur la cornée; *dans ces deux circonstances il s'agissait probablement de cataractes partielles.*"—Magne, loc. cit.

"I have myself had under my care some patients above the middle age, in whom the arcus senilis was very broad; and in one instance the patient was for a considerable time under my care, and occasionally consulting others during that period. When he first applied to me, the arcus was two or three times as broad as we usually see it; but his vision was not then interfered with. By degrees, the inner edge approached nearer and nearer to the pupil, until it left him a small space only for vision. Every application and variety of medicine were exhibited or adopted in their turn, but did not seem to possess any power of arresting the progress of the disease. He then left my care and consulted several others, and again returned to me, rather worse, and quite broken-hearted, because no surgeon had been able to benefit him. He was a tall, and rather stout man, about fifty-five years of age, and he never had any pain in his eyes throughout his attendance on me. I have lost sight of him now for four or five years, so that I cannot give any account of his present condition; certainly I augured badly for him, and I thought his cornea would gradually become quite opaque."[*]

Mr. Lawrence says the arcus often occurs on the lower half of the cornea only, and sometimes it exists only in one eye, or is more considerable in one than in the other eye. With respect to the first statement, I believe that if the eye be closely examined there will almost invariably be found an upper arc, though present, merely as a very fine curvilinear opacity, whilst below a broader one may exist. But even such instances, according to my observation, by no means often occur. I have been frequently struck with the exact correspondence existing between the two eyes involved by arcus senilis at this affected portion of the cornea, and the remark applies to its situation, (whether chiefly above or below,) degree of progress made, colour, &c. This symmetrical arrangement is, as a very general rule, adhered to. Exceptions, out of a large number of cases, may be met with. To the above peculiarities I may add one other which has fallen under my notice, and occurs in a man who has numbered upwards of a hundred years. Possessing all his faculties, he enjoys a "green old age" in quiet comfort, and may still be seen taking his daily stroll—a happy, healthful centenarian; fairly gainsaying the poet's dogma, that "life protracted is protracted woe." Simple food has been his constant diet; water his invariable beverage, and sickness has ever been to him an utter stranger. Though the lack lustre and sunken eye tells unerringly the tale of declining life—though the dilated pupil, flattened cornea, tinged lens, and waning sight, truthfully bespeak accumulated years—the senile zone, withal, has added but slight testimony in corroboration of such unimpeachable evidence of the ravages committed by the hand of Time.[*]

Concomitant Degeneration of the Ophthalmic Artery.[†]—The arteries within the skull I believe to be those which are the earliest to give evidence of degeneration, and we can seldom examine the brain after the age of fifty without finding that these vessels already present traces, more or less obvious, of this alteration. The above condition may exist, too, without the patients having suffered from head-affection, and the brain shall be found, in all respects, healthy. Distinct osseous deposition in the coats of these arteries is far more uncommon than is the like change in other parts of the arterial system; and whilst the aorta and larger vessels of the lower limb present ossific patches, the arteries of the brain are generally rendered opaque, only, by that precursory process—fatty degeneration. It is by no means uncommon, I find, to see the ophthalmic arteries in the last-mentioned condition in the old subject, and where the arcus is developed. "In several cases of internal (?) and external arcus senilis Dr. Schoon has found the ophthalmic artery ossified." (Mackenzie.)[‡]

Occurrence of the Arc in the Lower Animals.—Walter and Wardrop report that they have found the arcus in horses. Dr. Karl Himly says it may be seen in birds. Not having myself had the opportunity of verifying these statements, I wrote to Professor Spooner, of the Veterinary College, on the subject, and am indebted to the courtesy of that gentleman for the following communication:

"I have not seen an arcus senilis as a pathological condition of the eye of the horse. There is a narrow white line, which sometimes extends around the cornea, and sometimes only partially so, to be seen in the eyes of almost all horses, both old and young, which is normal, although I believe, by some, has been described as the result of diseased action."

With the above note I received the eyes of a horse,

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[*] "Although this alteration in the texture of the cornea is not productive of any inconvenience or injury, and does not lead to any evil consequences whatever, yet, as it occurs at a period of life when vision becomes defective from other causes, you will frequently be consulted respecting it, on the supposition that it is, in reality, the cause of the dimness of vision from which the subjects of the affection are suffering; and perhaps you may in a few instances deem it advisable to quiet some nervous subject with a prescription, in addition to the assurance that the disease *per se* will not occasion any serious injury."—MIDDLEMORE.

"On ne saurait proposer aucune médication pour combattre l'opacité annulaire, puisque, par le fait même du siége, qu'elle occupe, elle est incapable de nuire à la vision."—MAGNE.

"Est vitium *incurabile.*" J. Plenck. De morbis oculorum. Vienn, 1783.

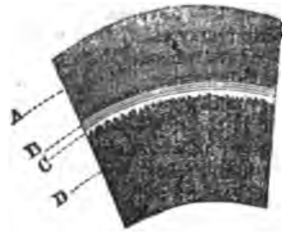
[*] The changes which are going on, though insidious, are no less real. Old age steals upon us by slow and imperceptible degrees, which, even when obvious to others, are often unknown to ourselves. Nature, when the system is entrusted wholly to her laws, thus kindly smoothes the path along which we descend the vale of life, and conducts us by easy stages to our destined place of repose. But the number of those who thus gently glide along the stream of years is small indeed, compared with those whose declining age is withered by infirmities or embittered by disease. The 'age that melts in unperceived decay' is rarely met with amidst the numerous and diversified causes of premature decrepitude to which man, in his civilized condition, is obnoxious."—Dr. ROGET, *Cyclop. Pract. Med.*, *Art. Age.*

[†] "The ossification of old age appears to be the last term of the successive changes which the middle membrane of the arteries, which is at first soft and reddish, undergoes during life.—BECLARD, *Elements of General Anatomy*, p. 202. 1830.

"There is a point
By nature fixed, whence life must downward tend,
For still the bating tide consolidates
The stubborn vessels more reluctant still,
To the weak throbs of th' ill supported heart.
This languishing, these strength'ning by degrees
To hard, unyielding, inelastic bone,
Thro' tedious channels the congealing flood
Crawls lazily; and hardly wanders on;
It loiters still; and, now, it stirs no more.
Dr. ARMSTRONG'S *Art of Preserving Health.* 1744.

[‡] *Ossification of the Coronary Arteries, associated with Fatty Degeneration of the Heart.*—Dr. Quain says, "In thirteen of the thirty-three cases of fatty degeneration of the heart (Series I.), the coronary arteries were more or less ossified or obstructed, likewise in seven of the second series, and in five of the third. In all the cases I have myself examined on this point (except in a case of phthisis, and in some cases allied with it), I have found more or less obstruction of these vessels. I have seen the coronary artery extremely ossified, going to the only part of the heart affected, (see Case 26, Series I.) A nearly similar condition will be found reported as having existed in several other cases in these series. At least arteries proceeding to the seat of the disease are found more or less obstructed, (see Cases 9 & 26, Series I., and Cases 2 & 3, Series I.) In the last case the coronary artery was single and ossified."—*Med. Chir. Trans.*, vol. xxxiii. 1850.

*thirty years of age.** At a first view of them, the zone appeared to be present, but dissection showed the white ring to be due to an absence of pigment in a very dark iris at its outer circumference, and which, being seen through a perfectly clear cornea, presented a deceptive appearance of the senile arcs. This iridal ring was about two lines in breadth, and irregularly serrated at its inner edge, as shown in the subjoined diagram:—



A, Sclerotic. *C*, White iridal ring.
B, Line of attachment of cornea. *D*, Iris.

With respect to birds, Mr. Yarrel informs me he has not noticed in them an annulus similar to that seen in man; but adds, that his attention has never been drawn particularly to the subject.

Existence of the Arc at an early period of life.—I have already stated that several authors have noticed the arcus at an early age, and added: "that such may occur, I would not wish to deny, but, from the examination of a large number of persons, (inclusive of all ages, between the time of birth and forty years of life,) and never having seen the fatty arc in a single individual, I feel inclined to believe that its presence must, at least, be rare before the last-mentioned age." Since the above was penned, I have seen this appearance in a gentleman, thirty-four years of age. In the left eye the zone is complete, and of but little breadth; in the right eye, the ring, for the extent of a few lines, is incomplete. Vision is perfect He has been aware of the existence of the arcus for the past twelve years. His father and his grandfather had each the arc at as early an age as himself; a brother and sister, however, are free from it. Mr. Wilde, of Dublin, has kindly directed my attention to a case published by him,† and the account not having, previously, fallen under my observation, I now take the opportunity of quoting it: "Sometimes an opaque ring, exactly resembling the arcus senilis, is observed at birth. I have lately seen an instance of this peculiarity in a young gentleman from the Isle of Man: in one eye, the opacity completely encircled the cornea; in the other it was interrupted. It may be recognised from *micro-cornea* by the remains of the general congenital opacity; and from the overlapping sclerotic which we sometimes meet with at birth, by its defined edge, and by a diaphanous ring external to the opaque one, and in general it is more complete than the arcus senilis. This malformation, to which we may, with propriety, apply the term *annulus juvenilis*, was noticed, though not accurately described, by Wardrop in 1808." Mr. Lawrence has seen the arcus at the age of thirty-three; Sybel mentions a similar instance. Mr. White Cooper informs me that he has a young person under his care, aged about twenty-eight, in whom the arcus is commencing at distinct points. Choroiditis from over-work and general debility is the disease for which she is being treated.

Since the first part of these "Observations" was published, a man of thirty-three years of age has fallen under my care, at the Royal Westminster Ophthalmic Hospital, in both of whose eyes a very broad upper arc exists, and at the lower part is a smaller one. He is pale, thin, feeble, and "generally out of health." The pulse is soft and languid; the appetite indifferent, sleep unrefreshing, and the body wastes. He has pursued the trade of a painter for several years; during which time he has been thrice the subject of colica pictonum, and has once been salivated for syphilis. The gums have slightly receded from the teeth, and present still a bluish margin. The sclerotic is abnormally thin; the cornea rather more prominent than natural; the iris sluggish; dull pain in the eye-balls, and vision is obscured. The arcus is of a more dense white than I have ever before noticed it to be, and appears as though formed by the confluence of opaque patches, so as to give somewhat of an irregularity to the margins of the completed arc. I believe this case to be similar to the one last mentioned, only in a more advanced stage.

Lately, I have been shown a thin, sickly-looking girl, *sixteen years of age*, who three years ago became an hospital patient, suffering in the left eye from a severe form of choroiditis; the sclerotic and cornea became affected in the course of the disease, which was eventually, but with difficulty, subdued. Since this period, she has had other, though much milder attacks of the choroidal affection. The right eye has never suffered, and is in a sound state. The left one presents thinning of the sclerotic; some rather large and straight vessels; a too prominent cornea with nebulous spots, and the iris is sluggish. She is unable to see with this eye, and occasionally experiences dull pain in it. At its upper part is a commencing arc, about three lines in length, slightly curved, and separated from the overlapping sclerotic by a clear interval.

Co-existence of Fatty Degeneration of the Heart with the Arcus Senilis.—I have formerly remarked that "it would be interesting to learn, whether, in those cases of fatty degeneration of the heart which have of late years been recorded as occurring under the age of forty, there existed in the eyes any trace of that appearance which indicates the like condition of the cornea. *I have in no instance found the senile arc, when well developed, unaccompanied by fatty degeneration of the heart. The extent of degeneracy in this organ has appeared to me to bear a relation to the degree to which the cornea was invaded by the deposit.*" Since penning these observations, I have had frequent additional opportunities of inquiring into the subject, and find them to be more fully borne out by extended experience.

On discovering that the senile zone was produced by fatty degeneration of the cornea, I, at once, became desirous of ascertaining whether or not this appearance might be looked upon as an *exponent* (so to term it) of similar changes going on in other textures of the body—textures, the degeneracy of which we might suspect, but could not, during life, pronounce with certainty upon; and the fact being established, that the alteration in the cornea was of this peculiar character, and with it was to be found associated the same change in internal organs, a clue might thus be given to the nature of certain obscure affections, and a valuable aid to diagnosis be, thereby, secured. In endeavoring to establish the validity of this position, from frequent post-mortem inquiry, I found that the heart is, of all other organs, the one which most invariably presents fatty degeneration where the arcus exists; and the extent of change in the cornea, I believe I have good reason to say, may be regarded as a measure of the degree to which the heart-fibre has, in the same manner, become changed.

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* "There is nothing in the system of nature which, in the present state of our knowledge, appears so unintelligible as the scale of longevity. It must be admitted, indeed, that our knowledge upon this subject is very imperfect; for all that is known of domesticated animals, and the accidental facts which have been preserved concerning others, tend to the strange result, that longevity bears no relation either to strength, size, complexity of organization, or intellectual power. True it is that birds, which seem to rank higher than beasts in the scale of being, are also much longer lived. *Thirty years is a great age for a horse;* dogs usually live from fourteen years to twenty; but it is known that the goose and hawk exceed a century. But fish, evidently a lower rank in creation than either, are longer-lived than birds; it has been said of some species, and of certain snakes also, that they grow as long as they live, and as far as we know, live till some accident puts an end to their indefinite term of life. And the toad! it cannot, indeed, be said that the toad lives for ever, but many of these animals who were cased up at the general deluge are likely to live till they are baked in their cells at the general conflagration"—SOUTHEY.

† Dublin Journal of Medical Science, vol. xxvii. p 83.

Associated with this condition of the eye and heart, I not unfrequently find fatty degeneration of the liver, kidneys, various muscles, bones, arteries, cartilages of the larynx and ribs, and several other parts; but, the amount of change in these bears no such ratio to the extent of alteration in the cornea as I have stated to obtain with respect to the latter part and the heart. In making this remark, it must be borne in mind, that my observations (with one exception, to be presently mentioned) have been confined to subjects more or less advanced in years—to men and women who have been long the habitants of a work-house. Professor Paget has truly said, "Fatty degeneration is a common form of change in the imperfection of the formative process attendant on the infirmities of old age."*

To return to the fact of a simultaneous existence of this degeneracy in the eye and heart, I would wish by no means to imply that there is any further connexion between them than that which I have stated to obtain in these particular cases; and I have already remarked, "the change in including this organ (the heart) has wrought there mischief, to which the system succumbs, at last, with fatal certainty, but which other less vital parts can support without important interference with their functions."

I have had frequent opportunities of examining the bodies of the aged, where death has been for days, and even weeks, hovering over its victims, and will often appear suddenly to annihilate them; but, slowly, again, the latent spark of life is rekindled, once more to glimmer on in gradually-increasing gloom, till at length its waning light is forever extinguished, and all is darkness. An autopsy shows, to the unaided eye, a generally-healthy set of organs, but the heart is found pale, mottled, flabby, and friable; the microscope displays its fatty degeneration.

Since announcing the fact of the co-existence of this condition of the heart with an arcus senilis, I have been much pleased to find that two high authorities on the diseases of this organ (Dr. C. J. B. Williams and Dr. R. Quain) have directed their attention to the subject, and that they, too, consider the presence of the arc as a diagnostic sign of this affection. Dr. Williams has very kindly favoured me with the annexed table of cases, which have occurred in his practice during the last six months:—

Dr. Williams remarks in his letter—"In the following cases fatty degeneration of the heart was suspected, from the existence of symptoms of embarrassment of the circulation and respiration, not referable to any other lesion; the disorder being connected with a declining state of the general health, too enduring to be ascribed to merely functional disturbance. The following table shows the existence of the arcus in the large proportion of twenty-three out of twenty-five cases. Out of these I have been able to prove the existence of fatty degeneration of the heart, by post-mortem examination, in only two cases. As fatty degeneration has now been proved by Dr. Quain to be, as I had previously surmised, a result of impeded or degraded nutrition, so it may have for its causes the general one of weak circulation and imperfectly purified blood, and the local cause of impeded supply of blood to the tissues of the part. It is unnecessary here to allude further to the general cause; but in reference to the local cause I would suggest, that, in addition to any obstruction arising from a diseased state of the arteries leading to the eye, the arcus senilis owes its position on the upper segment of the cornea to the pressure of the upper lid, which, slight as it is, is sufficient to promote that change which results from weakened circulation."

Age.	Sex.	Degree of Arcus.	Prominent Symptoms.
M.	56	Marked.	Palpitation, short breath, œdema.
M.	65	Slight.	Pulse irregular, breathing short.
M.	52	Marked.	Fluttering at heart, dyspnœa.
M.	77	Marked.	Dyspnœa, œdema.
M.	74	Moderate.	Palpitation, fluttering, œdema.
M.	67	Marked.	Palpitation, occasional angina.
M.	60	"	Dyspnœa, sternalgia on exertion.
F.	49	"	Dyspnœ & fluttering on exertion.
M.	55	"	Short breath, dropsy.
M.	62	"	" "
M.	48	"	Great weakness, slight œdema.
M.	64	"	Short breath, weakness, œdema, albuminuria.
M.	70	"	Short breath, œdema.
F.	64	"	" sternalgia.
M.	56	"	" angina.
M.	59	"	" slight œdema.
M.	50	Slight.	" " albuminuria.
M.	60	Marked.	" hæmoptysis, indur. pulmon.
M.	69	Slight.	" weakness, faintness, slight œdema.
M.	50	"	" sternalgia, œdema, albuminuria.
M.	45	"	" weakness, faintness.
M.	59	Marked.	" palpitation, œdema.
M.	58	"	" fluttering, sternalgia.

Cases of Supposed Fatty Degeneration of the Heart without Arcus Senilis.

F.	60	None.	Short breath, palpitation and fluttering, & almost syncope.
M.	66	"	Extreme asthenia, irregular pulse, breath short.

Three months since an opportunity occurred to me of examining the body of a man, *forty-two years of age*, who died in the Charing-cross Hospital. He had been long under treatment for extensive lumbo-pelvic abscess opening near the hip, the matter having found its way through the great sciatic notch. In connexion with symptoms which led to the suspicion of fatty degeneration of the heart, there existed in each eye a particularly well-developed arc both at the upper and lower portion of the cornea. After death I found that the heart was extensively affected in the manner surmised, and an examination of the corneæ showed the arcs to be formed by the same degeneracy of tissue. This case we must regard as one of particular interest; in the first place, from the presence of the arcs in so complete a condition at the age of forty-two years; and secondly, from fatty degeneration of the heart having been proved to co-exist. Dr. Quain says, "In one deeply interesting case, at the post-mortem examination of which I assisted, this diseased condition of the heart, to the diagnosis of which the state of the cornea contributed, was most marked." He further adds: "Thus, then, when the signs and symptoms of fatty degeneration of the heart are present, the appearance of the cornea will greatly aid in the diagnosis. It must not, however, be forgotten that fatty degeneration of the heart may occur under circumstances and at an age when we would not expect to find this lesion of the cornea; so likewise, but in a much less degree, we may expect to find the change of the cornea independently of change in the heart."

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* London Medical Gazette, 1847, p. 147.

In illustration of the latter part of this remark, I may refer to the case, already mentioned, of the young girl, in whose eye an arc began to form after severe and protracted choroiditis. Such local influence has here wrought local change simply, and it is not because this degeneration is in progress that we should assume a co-existence of similar progressive alteration in the heart. On this point I would wish to be rightly understood, and intend my observations to apply only to instances where the arcs are being established as other manifestations of the decline of life are becoming developed, or where perversion of nutrition, occurring at earlier periods of existence, involves in its transformation the eye, as it, at the same time, implicates the heart-fibre with other and dissimilar textures.

The subject of the relationship of the arcus—when not dependent for its origin solely on impaired local nutrition—and fatty degeneration of the heart is as yet, I feel, but in the infancy of investigation, and it is by extended investigation alone we may hope to arrive at the maturity of Truth: and should continued inquiry still add corroborative force to the position I have advanced, the eye will be found to supply us with another semeiological indication—in addition to the many it is already acknowledged to afford—of high practical value in the diagnosis of disease.

In conclusion, I may remark, that the statement of authors respecting the existence of arcs, or a zone in one eye only, have invariably been made without any qualification. Through the kindness of Sir John Liddell and Dr. Beith, I have had the opportunity of examining some hundreds of the inmates of Greenwich Hospital, and amongst other interesting and important facts elicited from this source I find that when the arcus is present in one eye alone, disease or accident has so affected the organ, as to materially impair its nutrition, and lead to the establishment of fatty degeneration of the cornea. In all the cases which I have examined of this change in the heart, associated with the arcus, both eyes have been symmetrically affected. Dr. Quain has obligingly favoured me with the case of a man, *twenty-eight years of age*, who, is the subject of fatty disease of the heart, and in whom there exists "a distinct though not a broad arcus of *both corneæ*."

REPORT OF

A SEVERE LACERATED WOUND OF THE FACE AND SCALP, LIGATURE OF THE COMMON CAROTID ARTERY, AND RECOVERY.

BY S. T. CHADWICK, M.D. Edin., M.R.C.S. &c. Lond.

JOSEPH B——, aged thirteen years, who resided in Foundry-street, Bolton, and assisted his father at the trade of a woodturner, was engaged, one afternoon, in that occupation, when, in consequence of his foot slipping, he fell upon a circular saw, of about twenty inches in diameter, which inflicted a severe wound, extending from the anterior border of the masseter muscle, passing along the ramus and angle of the inferior maxilla, across the neck, a little below the mastoid process of the temporal bone, to the superior transverse ridge of of the occipital bone, and terminating near the protuberance of that bone. He was carried to my surgery by two men, bleeding profusely, and in a state of great exhaustion.

The injury was on the right side of the neck and face; the wound was very deep; the edges were uneven, and jagged by the teeth of the saw; the muscles were considerably lacerated, and several branches of the external carotid artery were cut across. The occipital bone was deeply grooved for more than two inches in extent. The hæmorrhage, which was very profuse, was not arrested before the application of about six ligatures. After cleaning the wound, which contained a quantity of hair, and several spiculæ of bone, the edges were brought partially into apposition with adhesive plaster, light dressings and bandages were applied, and the boy was conveyed home in a cab, a distance short of half a mile.

I visited him early on the following morning, and found him greatly agitated. His mother informed me that he had passed a restless night—not so much from pain resulting from the wound, as excitement and alarm. I directed him to be kept quiet, a dose of castor oil to be administered, and his regimen to be lightly antiphlogistic. In the evening, owing to the agitation continuing, I prescribed a pill of calomel, opium, and tartar-emetic.

On the third day he was reported to have had some sound sleep, and his appearance was certainly more tranquil, although the pulse was quick, the skin dry and hot, tongue furred, and he complained of slight plain in the head. The oil had operated twice, freely. He complained of the wound feeling stiff and uneasy. There had been no further bleeding since the first dressing.

On the fourth day there was less febrile disposition, but the integuments near the wound were swollen, red, and painful; a slight erysipelatous blush was extending over that side of the neck and face. I removed the bandages and dressing. The surface of the wound had a livid appearance, and was covered with an ichorous, fœtid discharge. Simple dressing was applied, and a bread-and-water poultice. The citrate of potash, with small doses of the antimonial solution, were administered every four or six hours. As he complained of the weight of the poultice, an evaporating lotion was substituted, the effect of which (as he expressed himself) was very grateful.

On the succeeding day the fever was more abated, the parts near the injury were considerably less swollen, the pain had subsided, the redness about the neck and face was not so extensive, and his condition altogether was much more favourable. For the four following days the case progressed quite satisfactorily.

On the eighth day I again dressed the wound, which had put on a much cleaner and more healthy appearance, granulations shooting up in different parts, and covered with healthy pus.

In about four hours after I had left him, a messenger came to my surgery, in great haste, to say that the boy was bleeding to death. I immediately repaired to the house, where I found him, supported by two females, almost insensible, and completely blanched, a lake of blood surrounding his neck and chest, of an arterial character; the breathing anxious and hurried; the extremities covered with a cold, clammy perspiration; the pulse almost imperceptible.

I immediately opened the wound, but in consequence of the syncope the bleeding had ceased. However, as soon as reaction commenced, I observed bleeding from two or three points. I employed both tenaculum and forceps to secure the bleeding orifices; but owing to the condition of the wound, unless I included a considerable portion of surrounding structure, the instrument did not retain its hold; and even them, on applying the ligature, it cut itself out.

It was evident that any further hæmorrhage could not be borne with impunity; therefore I determined, without further delay, to cut down on, and place a ligature around, the common carotid. From the exhausted state of the patient, and not having an assistant, the operation was rather protracted.

Owing to the great loss of blood, the boy continued in a weak and precarious condition for several days after which he began to rally and gain strength rapidly his appetite returned, no further hæmorrhage occurred, and in a month he was able to come down stairs. The wound put on a florid, healthy appearance, and in about seven or eight weeks it was completely cicatrized, excepting at one point, where there was a small exfoliation from the cranium. The ligature left the carotid about the twenty-fourth day.

He had no cerebral disturbance after the operation; indeed, not one unfavourable symptom was manifest.

On account of the great extent of the wound, (more than seven inches,) and its locality, the application of pressure was impracticable; and I consider that any delay in so urgent a case would have been highly culpable.

An unseemly scar exists on the side of the neck and face, and permanent baldness over the place of injury to the scalp.

ON THE

TREATMENT OF REMITTENT MENSTRUATION BY SULPHATE OF QUINA.

By Edward John Tilt, M. D.

Senior Physician to the Paddington Free Dispensary, and Physician to the Farringdon General Dispensary and Lying-in Charity.

I have given the name of remittent menstruation to that variety of menstrual derangement which is characterized by a change from the habitual type to some other, so that the menstrual periods are brought nearer, and tend to run into each other. The term remittent is borrowed from the pathology of fever, and as it has not been objected to by the numerous critics who have reviewed my work "On Diseases of Menstruation," but is, on the contrary, approved of by a severe though courteous reviewer, I conclude that the term is suitable, and that it will be adopted.

I shall not now enter into any consideration relative to the pathology of this affection; but merely observe that such cases are not uncommon, as I find three per cent. to be the average of their occurrence in the patients I attend for ovarian, uterine, or other complaints. These cases are often alarming both to the patient and her friends, and are tedious and annoying to the medical attendant. I will proceed to illustrate a treatment of them which I have found very successful.

Rachel S——, aged twenty-nine, a tall, slender, well-made woman, with light hair and blue eyes, in whom menstruation first appeared between fourteen and fifteen, and progressed regularly until six months since, when she left her native county (Lincolnshire) and came to town. For two months menstruation appeared as usual, but she was troubled with intermediate leucorrhœa, (that, I mean, which takes place between two epochs, and is independent of the menstrual nisus;) then menstruation came on every fortnight, lasting eight days instead of five, and sufficiently abundant to weaken the patient very much. Though naturally of a good-tempered disposition, she had become irritable, peevish, and morose, and though she had been attended by several medical practitioners, and had taken steel and bitters, the disorder remained the same.

On the 25th of October she applied to me at the Paddington Free Dispensary. The patient was weak and exhausted, but not chlorotic; she had just passed a menstrual period; there was an absence of pain and of other symptoms of uterine disease; therefore, notwithstanding a discharge of which she complained, I omitted all *local* treatment, and ordered the following pills and mixture:—Sulphate of iron, two scruples; sulphate of quina, ten grains; extract of hyoscyamus, a scruple: mix for twenty pills, one to be taken night and morning. Camphor mixture, six ounces; liquor potassæ, four drachms; tincture of hyoscyamus, six drachms; tincture of cardamoms, two drachms. Half an ounce to be taken thrice daily. An opium plaster to be applied to the pit of the stomach.

The patient's general health improved, menstruation returned to its wonted type, and from that time she only took one pill every night, until the approach of the ensuing epoch, which passed on as it ought to do; and the patient was discharged on the 26th of December.

Miss M. A. L——, aged sixteen, with dark hair, grey eyes, slender, and of middling height; has lived in town all her life. She first menstruated between fourteen and fifteen; and regularly, for four months after its first appearance, did menstruation adopt the monthly type. Since seven or eight years of age she had been subject to leucorrhœa, which for the last three months has preceded and followed the menstrual flow: the latter has made its appearance every fortnight. Still there was no intermediate leucorrhœa; there were no pains in the back, none in front, and none were determined by pressure on the abdomen; but the thighs were so painful that she could scarcely walk, and her legs were at times much swollen. For this symptom my opinion was requested by her mother. The girl had very much fallen off, was much debilitated by loss of blood, and the undue influence of the generative organs on her system had caused catamenial headache, heaviness for sleep, momentary loss of her senses, and often fits of lowness and shedding of tears.

I thought I could safely promise a speedy return to health, and I ordered the following pills:—Sulphate of quina, ten grains; extract of gentian, a scruple; extract of aloes, ten grains; extract of hyoscyamus, a scruple. Mix for ten pills, one to be taken night and morning. I prescribed the compound camphorated mixture, and belladonna plasters to each of the ovarian regions.

The symptoms rapidly abated, and menstruation was forthwith brought back to its original type.

The preceding cases are, in my opinion, samples of an idiopathic aberration from the normal type of menstruation, and perfectly independent of any *inflammatory* lesion of the ovaries or uterus. They are illustrations of similar cases which have come under my care—cases in which various preparations of steel had been fruitlessly tried, and which soon yielded to the use of sulphate of quina alone, or in combination with other remedies; and I therefore strongly recommend this practice to the profession, premising that the treatment will not be so rapidly effectual, and may even be attended by mischief, if the remittence of the menstrual flow depends, as it sometime does, on ovarian or uterine subacute inflammation, as in the following case:—

Eliza H., aged twenty-one, of florid complexion, full habit, and of middling stature, applied to me at the Paddington Free Dispensary for relief. For the last two years she had been living in London, menstruation first appeared between thirteen and fourteen, became regular from the first, was very abundant, and lasted five days at each period.

A few months ago the patient was attacked by a severe cold with fever, which stopped menstruation for two months. When the latter returned it was scanty, and accompanied by more than usual pain in the back, the stomach and head, and, attended by these symptoms, it made its appearance every three weeks instead of every month, giving rise also to sensations of weakness, trembling and lowness of spirits, with which she had previously been wholly unacquainted.

The patient localized her pains in the ovarian regions, pressure increased them, so did walking or any unusual exertion; she was slightly feverish; the tongue was furred, and the bowels were costive.

I considered this case as one wherein the remittance of menstruation was dependent on subacute inflammation of the ovaries, and I ordered six leeches over each ovarian region; poultices to be kept to the same regions at night; and a flannel sprinkled with camphorated liniment to be applied over the abdomen during the day. Aloetic purgatives and a sedative mixture were also prescribed. The pain subsided; the patient felt well; but menstruation returned at the morbid period of three weeks, and was still painful, and left behind it a certain amount of abdominal pain. After giving a brisk purgative, I applied belladonna plasters to the ovarian regions, and gave pills similar to those taken by Miss M. A. L. The patient now says, she feels well, and as menstruation has resumed its physiological type, I believe her to be cured.

ON THE DETECTION, BY THE AID OF MAGNETISM, OF NEEDLES EMBEDDED NEAR THE SURFACE OF THE BODY.

By James H. Aveling, Esq., Surgeon, Aberdeen.

It has long been an established principle in the practice of surgery, when needles have become embedded in the living tissues, not to make any exploratory incisions in search of them, but to wait until their presence can be distinctly felt, either by the probe, or by the finger of the surgeon. This expectant mode of treatment, while it was the most judicious that could be adopted, so long as the exact situation of the foreign body was indicated only by the vague and indefinite, though sufficiently painful and distressing sensations of the patient, may, I think, be considerably curtailed in its duration; and when the intruding body is at all near the surface, it can, I believe, be completely dispensed with, by the following simple method:—A needle is to be magnetised, by drawing a magnet along its surface about fifty times; it is then to be suspended by a fibre of silk attached by a piece of sealing-wax to the centre of the needle, so that neither the eye nor point may dip more than the other. This suspended magnet should then be held over the suspected part, which should be shaved if very hairy; when this magnetic indicator arrives over the part, the needle will dip and adhere to the skin, showing the exact point under which the body lies.

In two cases in which this mode of detection has been tried, the portion of needle sought for has been discovered and extracted, one of the needles having remained embedded for three months.

ON THE PREVENTION OF SUICIDE BY PROCURING SLEEP.

By Joseph Williams, M.D., London.

Suicide is unhappily of such frequent occurrence, even amongst the educated classes—its effects are so baneful to society, and are so deplorable in individual families, that I feel it to be a duty to offer the following remarks.

Comparatively but few suicidal acts occur without premonitory symptons, such as unusual irritability, restlessness, despondency, and vigilantia. Often when all these signs are present, and even when a person has not slept for many nights together, the unhappy sufferer and his friends neglect to have medical advice, when unexpectedly the dreadful catastrophe occurs which plunges the family into the deepest affliction. But, unfortunately, it often happens, that even when the medical attendant is summoned to such a case, he orders an aperient, gives a little fever mixture, and in a few days is astonished to learn that his patient has died by his own hands.

Let me most strongly urge upon all the necessity of doing something more than this; sleep may be procured, and may, in most cases, by judiciously selecting the narcotic, be induced. The opinions formerly held, that narcotics are rarely useful, often injurious, and but seldom effect the good for which they were prescribed, are being daily disproved. In incipient cases of mania and melancholia, the effects of morphia are remarkable; it will calm the frenzy, moderate the heart's action, soothe excessive irritability, and produce sleep. Where there is much action, it should be exhibited with calomel, antimony, or ipecacuanha; in cases of melancholia, it should generally be given simply with a slight excess of hydrochloric acid, of course paying strict attention to the bowels. Where there is delusion or hallucination, the administration of quarter-grain doses of the hydrochlorate of morphia with slight excess of dilute hydrochloric acid every six or eight hours will often speedily effect a cure.

But my more immediate object at the present moment is this; to insist on the necessity of exhibiting morphia, or some other narcotic, in those incipient cases where there is vigilantia; if this be done, many valuable lives will be annually saved. In several cases where patients have had suicidal or homicidal impulses, I have succeeded in removing such morbid desires by exhibiting narcotics, more especially morphia; and I know of no higher satisfaction a physician can receive than the grateful thanks of a cheerful patient, who has formerly been enchained by gloomy and terrific promptings.

ON THE BENEFICIAL EFFECTS OF SUMBUL IN A CASE OF DEBILITATED INTELLECT AND AMENORRHŒA.

By W. Vesalius Pettigrew, M.D., London.

When there has been a want of tone in the system, with a tendency to hysteria, the administration of sumbul has been attended with much benefit, and in the following hysterico-epileptical condition of one patient, I have found its effect almost miraculous.

M. E——, aged twenty-one, was brought to me by her aunt on the 20th June, 1850. The patient was diminutive; idotic in expression and mind; her walk very unsteady; she had never menstruated, but had from time to time taken gallons of medicine, for the purpose of inducing the catamenia. Her mind had become idotic only within the last twelve-month, during which time she had never had less than one fit in every twelve hours. She was suddenly seized with these attacks, struggled violently, foamed at the mouth, and afterwards remained in a state of coma from one to two hours. I desired the patient's attendant to obtain from Mr. Savory, of Bond-street, an ounce of the tincture of sumbul, which I believe is sold at the ordinary price of other tinctures, and to administer ten drops, in a little water, three times a day.

I will now extract some notes from my memorandum-book, to show the result.

June 25th.—From the time of her taking the sumbul to the evening of the 22nd, no fit; then three during the night, two on the 23rd, and none since.

July 2nd.—Had two fits on the 29th, and one on the 30th, of June; none since. The fits lasted a much shorter time. She walks more steadily; her intellects, such as they are, are clearer, and she is more cheerful.

10th.—Still improving in bodily appearance; takes more notice of passing matters. Had one fit on the 9th, and a very slight one on the 7th.

17th.—Had two attacks of shiverings on the 11th, and also on the 16th, but was not unconscious during the time. She is much stronger; sleeps well; looks clean; her eyes are bright; and her appetite is good, but not inordinate. Increase the dose to twelve drops.

30th.—Has had four fits since the 17th, but each of a very mild character, and lasting but a very short time, the coma afterwards never remaining above three minutes; increase the dose to fifteen minims.

Aug. 13th.—Since the last visit, has had three shiverings lasting but two or three minutes; not unconscious during either of the attacks. She now looks quite a different being. Her answers to questions are delivered briskly; her walk is steady; she amuses herself by working; sleeps well; has a good appetite, is improved in condition, and is now to return to the country.

In conclusion, I by no means write down this as a case *cured*, but the relief afforded has been very great, and would warrant a trial of the drug in similar cases. I have also taken the liberty of merely jotting down rough notes as they present themselves, thinking them more acceptable to practical readers than a studied and minutely drawn-up case.

REMOVAL OF A BREAST.

By Joseph Marshall, M.D., Southampton.

A Lady, aged thirty-two years, with light hair and very fair complexion, lately consulted me about a tumour in her breast, several other surgeons having previously given different opinions of its nature. It possessed externally all the characters of scirrhus, and upon learning the history of the case, I recommended its early removal. The lady, being satisfied of its serious nature, consented, and accordingly it was removed, under the influence of chloroform, on the 7th ult., and the wound perfectly healed on the 29th, having never presented an untoward symptom. There is one point in its history worthy of remark—viz., that although the tumour had existed for twenty-two months, and slowly and gradually increased, it was from first to last entirely free from pain, except only a slight aching, which remained a few seconds after each manipulation of the surgeon; perhaps this, with other negative evidence,—as the want of that peculiar complexion so characteristic of the cancerous diathesis, together with the perfect health of the patient from childhood to the present time,—may have been the reason of the different opinions entertained by those who had previously examined it; but whatever cause for doubt might have existed before the operation, subsequent examination by the microscope has entirely removed. Two absorbent glands were also dissected out, but they presented no other evidence of being implicated in the disease than a slight enlargement, which might have been produced by any ordinary local irritation.

ON THE TREATMENT OF HYSTERICAL FITS BY TARTARIZED ANTIMONY.

By J. Lockhart Clarke, Esq., Surgeon, Pimlico.

The length and severity of many of the paroxysms of hysteria, and the state of exhaustion in which they leave the patient, as well as the anxiety and alarm excited in the minds of her friends, render the successful treatment of these distressing cases a matter of considerable importance. Every medical man has too often witnessed the complete failure of stimulants, antispasmodics, and the other means usually employed on these occasions. Some time since, on seeing a case of great severity which had lasted nearly five hours, it occurred to me that the frightful spasms and contortions might be relieved by the administration of tartarized antimony. I accordingly ordered half a grain of this medicine to be taken every ten minutes till sickness ensued. The patient vomited a large quantity of undigested food and acid fluid, when the paroxysms (which abated as soon as nausea commenced) at once ceased, and complete consciousness returned. Since the occurrence of this case, I have adopted the same kind of treatment in several others, with uniform success; but I now find it better to administer a full emetic at once, instead of waiting for the slow operation of small repeated doses. I have also found this treatment very serviceable in many of the convulsions of children.

FORMULÆ OF COMBINATIONS OF ARSENIC WITH OTHER SUBSTANCES CAPABLE OF RENDERING ITS PRESENCE SELF-DETECTIVE.

By Thomas Cattell, M.D., &c., &c. Braunston.

[We hasten to give publicity to the following formulæ lately forwarded to us by our industrious correspondent, Dr. Cattell, who informs us, in a private note, that "they are the results of three years' research, as continuous as could be pursued in conjunction with professional avocations." The aim of Dr. Cattell is to suggest that the *white arsenic* of commerce should only be sold mixed with some substances, as in the following or other combinations, so that although the arsenic would not, when purchased, exhibit any unusual tint, any fluid vehicle into which it might be feloniously or accidentally conveyed would be the means of yielding timely warning, by its change of colour. The great desideratum would be, that any detective compound mixed with it should at the same time act as an antidote to the deadly effect of the arsenic; and on this ground, we think that the compounds into which iron enters as a constituent demand peculiar attention. We recommend the consideration of the subject to practical chemists: in the present grossly defective state of our legislation, as regards the sale of arsenic, it is impossible to exaggerate the importance of some protection to the public.—Ed. L.]

Since the appearance of my paper in The Lancet, "On Certain Modes of Constituting the Arsenic of Commerce Self-detective, when given with Homicidal Intent," further efforts have been made by me to show the great importance of adopting those suggestions. The legislature has been memorialized, and the Secretary of State communicated with, on the subject; and I have bestowed much time, during the past three years, in perfecting the means by which the object in view may be the more completely accomplished.

The formulæ which I here propose may not all have the same practical value, but taken in their entirety, they will illustrate the importance of the principles involved in a design of this nature, and enable a selection of some one or more of such formulæ to be made, according to the uses to which arsenic is applied.

By making choice of combinations not producing discoloration previous to solution, the murderer will be deprived of inducement to have recourse to other deadly agents, which could not, perhaps, be so easily constituted self-detective.

1. *Combinations in which the supervention of a Black colour, or colours approximating thereunto, constitutes the means of Self-detection.*

1. Arsenic, calomel, quick-lime, (pure oxide of calcium.) Mix.

1. Arsenic, calomel, pure potash, anhydrous sulphate of lime. Mix.

The anhydrous sulphate of lime should uniformly be used in any combination containing a salt affected by exposure to the air. Both the preceding are not in the slightest degree discoloured, while dry; but they produce reactions in any fluid vehicle sufficiently obvious to excite immediate attention.

3. Arsenic, tannic acid, anhydrous sulphate of iron. Mix.

Sulphate of iron contains seven equivalents of water of crystallization, which, by being expelled, leaves the sulphate in the state of a white powder, not liable to become affected by ordinary exposure to the atmosphere.

4. Arsenic, gallic acid, anhydrous sulphate of iron. Mix.

5. Arsenic, perphosphate of iron, tannic or gallic acid. Mix.

The perphosphate of iron may be conveniently made by adding a solution of phosphate of soda to another of a persalt of iron, as the perchloride, in equivalent proportions. This is the only easily prepared salt of iron without colour, and is well adapted for the purpose in question.

6. Arsenic, vanadate of ammonia, tannic acid. Mix.

A very minute quantity of vanadate of ammonia will produce, combined as above, an intense black colour in a large quantity of fluid. As an indelible ink it would have no equal, and it is to be regretted that vanadium is not more easily procurable.

7. Arsenic, protochloride of palladium, iodate of potash, anhydrous tartaric acid. Mix.

The protochloride of palladium is so delicate a test, that water containing only $\frac{1}{450000}$ part of iodine acquires from it a perceptible black tinge. Tartaric acid is employed in this combination from possessing the property of decomposing the iodate of potash, and thus setting free the iodine.

8 Arsenic, resin of jalap, anhydrous sulphate, or perphosphate of iron. Mix.

Resin of jalap, when properly prepared, forms a white powder, resembling starch.

II. *Combinations in which the supervention of a* BLUE *colour, or colours approximating thereunto, constitutes the means of Self-detection.*

1. Arsenic, anhydrous sulphate of iron, anhydrous prussiate of potash. Mix.

Becomes blue on exposure to the air, when intermixed with any moist substance. Ferrocyanide of potassium forms a white precipitate with the pure sulphate of the protoxide of iron, but a blue one if the iron be in a higher state of oxidation; this a few moments' exposure to the air always effects.

2. Arsenic, narceia, starch. Mix.

Narceia is a peculiar vegeto-alkaline base, discovered by Pelletier in opium. It exists in the form of white acicular prisms, inodorous, bitter, pungent, inert, and forms a blue compound with starch.

3. Arsenic, deoxidized (or colourless) indigo. Mix.

The white indigo prepared for this purpose should be well dried, by which its greediness for oxygen is materially prevented. In combination with an excess of lime a stable yellow compound is formed. If white indigo be intermixed with anhydrous sulphate of iron, a brownish-black colour is produced, which becomes blue by an excess of the sulphate. The combination of arsenic, white indigo, anhydrous tartaric acid, and anhydrous carbonate of soda, becomes instantly *blue* on the addition of water from the evolution of carbonic acid. Taking all points into consideration, the combination of arsenic and white indigo is one well calculated to be of practical utility.

4. Arsenic, morphia, iodic acid, or iodate of potash and tartaric acid, anhydrous sulphate of lime. Mix.

Pure morphia possesses the property of setting free the iodine of the iodic acid, which, with the starch, produces an obvious discoloration.

5. Arsenic, pulverized gum guaiacum, gluten, or flour. Mix.

One of the most remarkable properties of guaiacum is its turning blue by contact with gluten in the air.

6. Arsenic, iodate of potash, starch, anhydrous tartaric acid. Mix.

The iodate of potash is not so deliquescent as the iodide of potassium, while it is easily decomposed by tartaric acid. A convenient mode of preparing it is, to take of iodide of potassium, two parts; chlorate of potassa, three parts; fuse the iodide of potassium in a large Hessian crucible; remove it from the fire, and add, while still fluid, successive portions of the powdered chlorate of potassa, stirring well after each addition. When the matter ceases to froth up, cool, powder, and digest in tepid water, to dissolve out the chloride of potassium, when the residue may be dissolved in hot water; and crystallized.

7. Arsenic, ultramarine decolorized by an acid, anhydrous carbonate of soda. Mix.

Pure ultramarine has its colour removed by any of the minerable or vegetable acids.

8. Arsenic, Prussian blue, decolorized by means of the hydrated oxide of sodium, anhydrous tartaric acid. Mix.

It is remarkable that *common soda* should possess the property to decolorize Prussian blue, and that this colour should be restored by the neutralization of the alkali with the mineral or vegetable acids.

9. Arsenic, hæmatine, protoxide of barium. Mix.

10. Arsenic, hæmatine, neutral or basic acetate of lead. Mix.

Hæmatine is the colouring principle of logwood, but when quite pure is almost destitute of colour. Baryta water turns it blue, the intensity of which heightens, and ultimately passes to a red-brown on exposure to the air. With acetate of lead, hæmatine gives a white precipitate, but which rapidly acquires a blue colour, by absorbing oxygen.

III. *Combinations in which the supervention of a* GREEN *colour, or colours approximating thereunto, constitutes the means of Self-detection.*

1. Arsenic, dried phosphate of soda, or bibasic phosphate of soda, anhydrous sulphate of iron. Mix.

It is interesting and important to observe how the atomic constitution of any chemical substance varies its appearance in relation to colour: thus the phosphate of the pertoxide of iron is *green*, while the phosphate of the protoxide is *white*. I have alluded to the bibasic phosphate of soda, because it is a permanent salt: it is prepared by strongly heating common phosphate of soda, dissolving the residue in water, and recrystallizing the deposit.

2. Arsenic, protoxide of nickel, dried carbonate of soda. Mix.

3. Arsenic, catechin, persulphate of iron, anhydrous sulphate of lime. Mix.

Cubical gambir or catechin, powdered and treated with cold water, leaves an insoluble residuum, which, by repeated solutions in alcohol, may be obtained in the form of white silky needles, catechin or catechuic acid.

4. Arsenic, anhydrous sulphate of copper, hydrochlorate of ammonia, pure lime (oxide of calcium,) anhydrous sulphate of lime. Mix.

If hydrochlorate of ammonia be free from chloride of calcium, it is not so deliquescent as that usually met with in commerce. Ammonia and arsenite of copper are formed by this combination.

IV. *Combinations in which the supervention of a* YELLOW *colour, or colours approximating to it, constitutes the means of Self-detection.*

1. Arsenic, purified annatto, pure lime. Mix.

2. Arsenic, anhydrous sulphate of iron, pure lime. Mix.

It is by exposure to the air, after being intermixed with any fluid vehicle, that the colour is produced.

3. Arsenic, curcumine, pure lime. Mix.

4. Arsenic, acetate of lead, iodide of potassium, anhydrous sulphate of lime. Mix.

5. Arsenic, bresiline, anhydrous tartaric acid. Mix.

6. Arsenic, acetate of lead, iodate of potash, anhydrous tartaric acid, and dried carbonate of soda, in equivalent proportions. Mix.

By this combination the fluid vehicle assumes a yellow of considerable intensity, while the effervescence occasioned by the contact of water offers additional security.

7. Arsenic, hæmatine, nitrate of silver. Mix.

I would remark here on the singular property of nitrate of silver becoming blackened by exposure to light—an effect solely manifested when in contact with organic matter. Pure nitrate of silver is not affected by exposure; it is to the presence or contact of organic matter under the influence of light that this interesting property of the salt of silver is attributable.

8. Arsenic, albumen, tannin. Mix.

9. Arsenic, trisnitrate of bismuth, crystallized bisulphuret of calcium, sulphate of ammonia (dried,) anhydrous sulphate of lime. Mix.

10. Arsenic, carbonate of lead, crystallised bisulphuret of calcium, sulphate of ammonia, anhydrous sulphate of lime. Mix.

It will be interesting to explain the chemical reaction of the two latter formulæ. When sulphate of ammonia is added to a solution of sulphuret of calcium, sulphate of lime is thrown down, and hydrosulphate of ammonia remains in solution. Bisulphuret of calcium is made as follows:—Boil together for one hour slaked lime three parts, sulphur one part, and water twenty parts; set aside the solution (with the sediment) in a corked flask for a few days, when orange-coloured prismatic crystals will be deposited.

V. *Combinations in which the supervention of* a Red *colour constitutes the means of Self-detection.*

1. Arsenic persulphate of iron, sulphocyanide of potassium, anhydrous sulphate of lime.

An intense blood-red is produced in this reaction, and the materials being soluble in the fluid vehicle, the mixture is rendered peculiarly valuable for an object of this nature. The deliquescent character of the sulphocyanide of potassium is, however, a great objection, and for this reason its combination with the anhydrous sulphate of lime is recommended. If sulphocyanide of ammonium is a permanent salt, and produces a like reaction, it should take the preference.

2. Arsenic, some of the mass obtained by calcining prussiate of potash and sulphur together. Mix.

Becomes red on exposure to the air.

3 Arsenic, a small quantity of bichloride of mercury. Iodide of potassium, anhydrous sulphate of lime. Mix.

4. Arsenic, hæmatine, anhydrous sulphate of alumina. Mix.

5. Arsenic, hæmatine, hydrochlorate of ammonia, and pure lime. Mix.

6. Arsenic; neutral borate of soda, 265 grains; calomel, 222 grains. Mix.

Becomes red when mixed with any hot fluid, the red borate of mercury being formed.

Neutral borate of soda is formed by saturating boracic acid in solution with carbonate of soda at a boiling heat.

7. Arsenic, bixine, hydrochlorate of ammonia, and pure lime. Mix.

Bixine is the colouring principle of rocon, and is obtained in almost white, small, needle-shaped crystals.

8. Arsenic, santaline, anhydrous tartaric acid. Mix.

Santaline may be obtained *colourless* by forming a lac with oxide of lead, and an ethereal solution of the colouring matter of santal wood, and then decomposing this lac by sulphuretted hydrogen. The pure and colourless santaline remains in solution, and may be obtained as a crystalline powder by evaporating the ether in vacuo.

9. Arsenic, bresiline, anhydrous tartaric acid. Mix.

Bresiline can be obtained colourless. It is soluble in water, and by ebullition becomes of a beautiful crimson red. With chromic acid or finely-powdered bichromate of potash a solution of bresiline assumes a reddish-brown colour, which gradually deepens, and after a short time a crimson red-coloured precipitate takes place.

10. Arsenic, sulphate of cobalt, ferrocyanide of zinc. Mix.

The solution, first *green*, afterwards becomes *red.*

11. Arsenic, some of the yellow granular powder obtained by digesting hepatic aloes in spirits of wine, pure potash, anhydrous sulphate of lime. Mix.

12. Arsenic, meconic acid, persulphate of iron, anhydrous sulphate of lime. Mix.

13. Arsenic, dracine, carbonate of lime. Mix.

Dracine or draconia is the colouring principle of dragon's-blood.

Other precautions than those referring to the supervention of some positive colour may be brought to bear in the prevention of poisoning by this deadly agent.

1. The *taste* of the arsenic may be altered: picrotoxia, strychnia, &c., would excite an intense bitterness; capsicin, croton oil, &c., an intense burning sensation.

2. The arsenic may be so combined as to excite the stomach to immediate vomiting: sulphate of zinc, tartarized antimony, &c.

3. The sense of smell might be excited by intermixture with a small quantity of musk, &c.

Lastly. The intermixture of arsenic with pulverized anhydrous albumen would greatly prevent its deleterious action on the parts with which it came in contact, and the system generally. Let it not be forgotten that the object of all these precautions is the prevention of murder—the prevention of the loss of human life under circumstances demanding every assistance which enlightened science can render. In this, as in every other instance where the question of human life is pending, the medical profession occupies the vantage ground. Should the means which I have suggested, after much time and consideration, prove effectual in but one instance in warding off the murderer's aim, or bringing to justice an individual who might otherwise go unpunished for his crime, my satisfaction will be great in the extreme! This, too, is but the exponent of the feelings of our noble profession generally, whose support in this matter I am desirous to enlist.

ON A CASE OF APPROACH TO THE SURFACE OF THE BODY OF SUBSTANCES FORMERLY SWALLOWED.

By John Winzar, Esq., M.R.C.S. &c., Salisbury.

It is perhaps twenty-seven years ago since my late father, who was in attendance on a lady in this neighbourhood, (suffering from mental aberration,) had his attention directed by the nurse to examine the lower part of his patient's abdomen, pain having been felt in that locality a few days previously. On pressure, he found a hard oviform substance underneath the skin; by the free use of his common bleeding lancet he cut down to it, and extracted from the opening thus made a silver teaspoon, of the usual length, (about five inches.) This was soon followed by three or four pieces of whalebone, of similar length, and a piece of red cloth, all of which had a few months previously been swallowed, during a period of more than usual maniacal violence.

The patient speedily recovered the little constitutional irritation thus set up, and reparation of surface was soon effected. The spoon is now in my possession, and some of the whalebones, though mutilated; the piece of cloth has been lost some time.

Some members of the family in this neighbourhood will confirm this statement, if requisite.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, JAN. 14, 1851. DR. ADDISON, PRESIDENT.

CASE ILLUSTRATING THE DIFFICULTIES OF DIAGNOSIS OF MORBID GROWTHS FROM THE UPPER JAW. WITH REMARKS. By PRESCOTT HEWETT, Assistant Surgeon to St. George's Hospital, &c.

THE patient, a man aged twenty-five, was admitted into St. George's Hospital under the care of Mr. P. Hewett, in May, 1848, with a large tumour, of an irregular shape, occupying various regions of the left side of the face. Presenting every appearance of having originated in the antrum, this tumour was found in the front and back part of the cheek, in the temporal fossa, in the orbit, and in the nostril, extending to the back part of the pharynx; round in shape, but lobulated; it was firm and elastic to the touch, perfectly movable, and, in the nostril, of a dead white colour and glistening appearance. The skin, conjunctiva, and mucous membrane of the nose were quite healthy, and no enlarged glands could be detected in any part. The history of the case was, that six years previous to his admission into the hospital, the patient was troubled with a disease, supposed to be a polypus of the nose, which had been easily removed with the forceps; subsequently, however, the cheek began to swell, and the tumours gradually made their appearance in the regions in which they were found,—all this had occurred without any pain, and with very little inconvenience. A year ago caustic had been extensively applied in two different places, large cicatrices marking the spots. This treatment had produced no effect on the disease, and no fungating growths followed the application. At different times, there had been extensive bleedings from the nose, which had somewhat reduced the patient. At a consultation of the surgeons of the hospital, it having been resolved that, in all probability, the disease was of the fibrous kind, and connected with the antrum, the removal of the upper jaw was decided upon; Dr. Snow, to whom the surgeons of St. George's are so much indebted for the able manner in which he for a long time administered chloroform at the hospital, having kindly undertaken to give it on this occasion. The patient being seated in a chair, the operation was performed in the usual manner; but, on removing the superior maxillary and malar bones, it was discovered that the disease was not connected with the upper jaw —it was altogether behind it. The larger portion of the tumour was dissected from off the pterygoid process, to which it was firmly attached. Those portions which were in the orbit and temporal fossa were removed without difficulty, being for the greater part simply connected with some very loose cellular tissue. The patient, having become faint, was placed in the horizontal posture, and a small quantity of stimulant administered, after which he soon rallied. The portion of diseased structure in the back of the nostril was then removed with a strong pair of curved scissors. The pulse having again failed, the patient was at once laid on a bed and carried into an adjoining room; different restorative means were made use of, and he appeared to rally somewhat; but shortly afterwards, as the breathing became embarrassed, an opening was at once made into the crico-thyroid membrane, and, as a last resource, an attempt was made to carry on artificial respiration with a tube, but every effort proved of no avail, the patient soon died. But few vessels were met with during the operation, and no great amount of blood was lost. Little or no bleeding followed the incision in the neck. The details concerning the administration of the chloroform are given in a letter from Dr. Snow. A careful examination of the bones removed during the operation showed that, in the superior maxillary, the antrum was all but obliterated, the posterior wall of the sinus having been forced by the tumour lying behind it against the anterior one; there was merely a chink left, the cavity of which was quite free, and lined by healthy mucous membrane. The malar was much more curved than natural. The structure of both bones was perfectly healthy. The tumours were of a purely fibrous character. At the dissection of the body, it was made out that the tumour had originated in the roof of the left nostril, its main point of attachment having been to the under part of the body of the sphenoid and inner surface of the pterygoid process. Portions of diseased structure were still found in the sphenoidal sinuses, as well as at the upper and back part of the septum nasi. Some loose bits were also found deep in the temporal fossa, and at the back of the orbit. These were lying in the cellular tissue. They were all connected to each other by slender pedicles, one of which passed through a hole in the perpendicular portion of the palate bone; that in the orbit had reached this situation by creeping through the spheno-maxillary fissure. The bones were throughout healthy in structure. The tissue of the growth was purely fibrous. The trachea and bronchial tubes, even to their minute ramifications, contained a quantity of frothy blood. The structure of the lungs was crepitant throughout, but each section presented numerous small, dark spots of ecchymosis, produced by some of the air-cells having been also filled with blood; these organs were otherwise free from disease. The heart was healthy; its cavities contained small black clots, but the greater part of the blood was thin and fluid, and did not coagulate on exposure to air. The other viscera were quite healthy. In his remarks, Mr. Prescott Hewett principally drew the attention of the Society to the great difficulties which at times were found to exist as to a correct diagnosis of the precise region in which a tumour of the upper jaw had originated. Of these difficulties, the present case afforded a good illustration. The history of the patient, and the various regions in which the tumour existed, had led to the conclusion that the disease, having sprung from the antrum, had gradually burst through some of the walls of this cavity, and thence spread to the spots where it was found. The operation and the subsequent dissection proved, however, that the antrum had not been the starting-point of the disease. Mr. Prescott Hewett had little or no doubt that the morbid growth had first begun in the nostril, and had subsequently reached the pterygo-maxillary fossa, either by making its way through the spheno-palatine foramen, or by breaking down a portion of the palate-bone; once in the fossa, the progress of the tumour may easily be traced; it passed into the orbit through the spheno-maxillary fissure, and, in the face, it had in some part made the bones yield, and in others it had so completely moulded itself to their shape, creeping over their cutaneous surfaces, that the outlines of the bones were scarcely discernible. Mr. P. Hewett's remarks were altogether confined to tumours of a fibrous character. The morbid appearances observed about the lungs led Mr. P. Hewett to ask the question whether the administration of chloroform was advisable in operations about the mouth, where there was likely to be a certain amount of bleeding. He had no doubt that the blood found in the lungs had got there by passing through the glottis, and he doubted very much if such would have been the case had no chloroform been used. Many surgeons, fearing this accident, had of late not failed to condemn altogether the use of choroform in these cases; but some, being unwilling to submit their patients to such serious operations without it, had adopted a middle course, administering this agent in the first steps of the operation only, hoping thus to avoid all risk. It remained still to be proved, however, whether, even with this precaution, there might not be danger in using anæsthetics in some operations about the mouth.

Mr. FERGUSSON said that the case was interesting in a variety of respects. It served to illustrate the difficulty of diagnoses in cases of this description. It was evident that the greatest care had been bestowed in investigating the nature of the case; every consideration had been given to it—as, indeed, no one could doubt on looking to the characters of the surgeons who had given their opinions about it; nevertheless, the disease proved to be somewhat different to what had been expected. It was supposed to have been a disease of the superior maxillary bone, but so far as he (Mr. Fergusson) could make out, it was only connected with that bone by lying in opposition with it. From the description given of the tumour, he should have supposed it to be a tumour of the antrum; and, indeed, had it not been for the very accurate description given by Mr. Hewett, of the compressed and altered condition of this cavity which was observed lying in front of the tumour, he would have concluded that it must have originated in this part. In a practical point of view, there was one feature deserving of special notice. In the description that had been given of the case, he (Mr. Fergusson) had not noticed any allusion to the shape or form of the front part of the superior maxilla. All that was said was, that it seemed to be perfectly normal; that there was not any distortion of the alveolar ridge, the teeth, or the nostril. This would have led him to think the tumour deep-seated, as in most cases of tumour in the antrum it expands as much in front as at the back part. When there is not any alteration in shape or distention, in the front part of the superior maxillary bone, especially the alveolar stage, the greatest caution should be used in deciding on an operation, because the tumour, in all probability, would be deep-seated, as in the present instance. He confessed that, in the absence of the particular changes in the alveolar process, to which he had referred, and from the circumstance that the tumour had extended towards the orbit, and upwards and outwards, so as to involve the zygomatic ridge and fossa, he (Mr. Fergusson) should have felt some hesitation in resorting to an operation. What had occurred here served, perhaps, to show more conspicuously the difficulties connected with such cases. There were many other points with reference to the pathology of this disease, which he would not then allude to, as they had been already, on former occasions, discussed in that room. With respect to the influence of chloroform, he (Mr. Fergusson) had operated very frequently since its introduction, in cases of this description, and some of these operations were very protracted; yet chloroform or ether had been used in these cases, and its application repeated when its anæsthetic effect seemed to be wearing off; and he had never met with any bad results, or anything which would lead him to believe that it might prove injurious. When chloroform was first introduced, he formed the opinion that it ought not to be used in these cases, because the blood trickling down the throat might perchance enter the larynx, and perhaps produce irremediable mischief. He had himself refused to operate in one case wherein it was proposed to give ether, but experience had since taught him that in these there was but little reason to dread mischief from that cause. He even had had cases in which the blood had trickled into the larynx, and yet no harm had resulted. He would wish to ask Mr. Hewett how long the operation had lasted, for a protracted operation of this kind might exhaust even a strong man. In such a case as this, all the circumstances should be carefully weighed, before the fatal result be attributed either to the operation or to chloroform.

Mr. HEWETT, in reply, said that the first part of the operation lasted for eight or ten minutes, the bones being easily separated. Taking the period of fainting, and the conclusion of the operation, the proceedings from the commencement did not exceed twenty minutes.

Dr. WEBSTER inquired whether the blood of the patient was fluid and black-coloured after death; or if bubbles of air were found in the cavities of the heart or veins, as in cases where chloroform was employed in surgical operations, and which terminated fatally, these appearances were almost invariable? An answer to these would assist in forming a correct opinion, whether or not the patient's death was in consequence of the chloroform employed to produce insensibility.

Mr. HEWETT said that the blood was dark-coloured and fluid. No air was observed in the heart. He believed that if the patient had died from the chloroform, it was by suffocation, and not as chloroform acting specifically as a poison on the mass of the blood.

Dr. SNOW said that he could not agree with Mr Hewett, that the chloroform had any share in causing the blood to enter the windpipe of this patient. In the first place, there was no difficulty of breathing during the operation, nor for some time afterwards. It only came on just before death, which took place after the influence of the chloroform had altogether subsided. In the next place, he had administered chloroform in several other operations for the removal of tumors, both of the upper and lower jaw, and there had been no symptoms, in any instance, of blood having entered the lungs. He exhibited chloroform, almost every week, in operations about the mouth and nostrils, in which there was a good deal of bleeding—such as the operations for epulis, for nasal polypi, and for hare-lip, and cases in which a number of teeth were removed at once, and yet in no instance had blood got into the lungs. The operation for hare-lip when the infant was laid on its back, with its head in the lap of the operator, perhaps put the glottis to as severe a test as any operation. He had administered chloroform, in nearly twenty cases, with the child in this position, since Mr. Hewett's case occurred; and he had also seen the operation performed in this way several times, in King's College Hospital, without the chloroform. There was a good deal of spluttering, whether this agent were employed or not, but in neither case did any symptoms of blood having entered the lungs ever supervene. He had performed some experiments in relation to this subject. In one of these, a kitten, having been made so insensible that it did not flinch on being cut, was immersed over head in tepid water, coloured with logwood, and allowed to remain half a minute. During this time it moved its ribs in the attempt to breathe, but did not draw in any water, for it recovered readily from the chloroform after being withdrawn; and being then killed, its trachea contained no froth, and was not stained by the logwood. Flourens had pointed out, on the introduction of the inhalation of ether, that the functions of the nervous centres were abolished, under its influence, in the same order as in asphyxia; and this was equally true of chloroform. But it was not found in asphyxia, by submersion, that a person began to fill his lungs with water as soon as he became unconscious; on the contrary, but little water was drawn in even during the last gasps which took place as he was dying. Indeed, as the glottis was an organ of respiration, it, was to be expected that it would retain some amount of sensibility as long as breathing continued. As the blood, in Mr. Hewett's case, seemed not to have entered the windpipe by the wound made after death, in order to perform artifical respiration, it must have entered just before, when the patient was in a state of collapse, and moribund. There were spots of ecchymosis in the lungs, as he witnessed; but the quantity of blood was not enough to cause death so soon, although it might have produced ill effects, had the patient survived. With regard to the fluidity of the blood in the deaths caused by chloroform, he thought that it was probably due to the artificial respiration which had been employed, for he had not found the blood quite fluid in one animal out of a great number which he had killed with that agent.

Mr **Henry Charles Johnson** had assisted Mr. Hewett in the operation under consideration. Now, it was suggested that the death might be accounted for in three ways, each distinct from, and unconnected with, chloroform. Firstly, the patient might have sunk from the length of the operation; secondly, he might have inhaled the blood during the existence of the syncope; and thirdly, the blood might have trickled through the wound in the trachea, and thus have produced suffocation. In answer to the first of these suggestions, he would reply that the operation was not longer than is usually the case in similar proceedings; the first steps were rapid, and the operation was only suspended during faintness: including the second part of the operation, the whole proceeding was not so long as is frequently the case in operations about the face. He thought this disposed of the first suggestion. With respect to the second suggestion, he was not aware of any case where, in consequence of syncope during, and collapse after, an operation, blood passing down the throat had found its way into the windpipe. Thirdly, the operation of opening the larynx was performed when the patient was expiring; the opening was made rapidly; there was scarcely any blood at all, and he believed none had escaped into the wound. Now, had chloroform any influence in producing the fatal result? For his own part, he had, since the occurrence of this case, abandoned chloroform in all operations about the face. Whether chloroform did or did not facilitate the admission of blood into the trachea, might admit of some difficulty of solution; but of this we were sure, that in the case before us, in which chloroform had been used, blood did get into the trachea and down the bronchial tubes, and death was the result.

Mr. **Barlow** was certainly quite under the impression that the man's life was destroyed by chloroform. It seemed far more reasonable, far more agreeable to the actual circumstances, to suppose that such had been the case than to conclude that death had been owing to the operation simply. It was gratifying to hear Mr. Fergusson state that he had removed the upper jaw so frequently, where chloroform had been given, without any bad result; this might happen, and yet some degree of risk have attended its administration. Six cases might do well, but the seventh might be followed by the issue of Mr. Hewett's. Looking to the effects of chloroform on the glottis and respiratory muscles, which could in no wise be moderated often, he doubted the propriety of chloroforming the patient in such an operation as that described: for a fatal case had happened in spite of the skilful administration of the anæsthetic agent, and an operation performed with as little delay as that case allowed of. There was no fault attaching to the giver of the chloroform; they were discussing quite another question. He thought the inquiries of physiologists deserving of some consideration in reference to the general operation of an extremely powerful agent. He had often experimented therewith, and he knew of nothing which so extraordinarily affected the muscular irritability; the high irritability of the batrachia was destroyed by it with a wonderful swiftness. In the case before them blood appeared to have flowed through the glottis, because it was inirritable; the patient could not eject it, because coughing was impossible, so to that he was endangered doubly. Mr. Barlow concluded by requesting his distinguished friend, Dr. Marshall Hall, to favour the Society with his valuable experience of the operation of this agent upon animals.

Dr. **Marshall Hall** observed, that he had listened with the deepest interest to the details which had been read to the Society, which he thought was under great obligations to the author for bringing forward so interesting a case, involving so important a question as that of the administration of chloroform; for it was this, in its largest sense, to which the communication gave rise. He (Dr. Hall) had performed a vast number of experiments on the effects of chloroform on the animal economy, and if he had been asked the question relative to its probable effect on the human subject before it had ever been administered to it, he should have said that its administration would be attended with the utmost danger. He believed that he might declare, that the effects of chloroform on the animal system, by inhalation or imbibition, are displayed, first on the cerebral, secondly on the spinal, and thirdly on the ganglionic systems, respectively, in relation to time. It required the utmost skill to *limit* its operation to the first of these; and if its influence extended to the second, there was danger, from the failure of respiration; and if to the third, there was sudden death, from the cessation of the circulation. The transition from one of these stages to the other was apt to be sudden, and unexpected dissolution was the terrible consequence. This event had place taken in the human subject; it had been then referred to unsuspected disease of the heart or lungs, but in this opinion he had no confidence; in experiment, the same unexpected event has occurred. We remember the occurrence, in a lecture by Mr. Brande, at the Royal Institution. That gentleman, having placed a guinea-pig under the influence of chloroform, it fell on its side. The lecturer is reported to have said, "The animal will speedily recover from this momentary debility;" but it never did recover! He (Dr. Hall) had seen the same unexpected death repeatedly. And yet it was said, that many hundreds, nay, some thousands, of patients, had been placed under the influence of chloroform at St. Bartholomew's Hospital without a single fatal result. The hospitals of St. George and of St. Thomas had been less fortunate. Still it was marvellous how few accidents had occurred. This he ascribed entirely to the extreme caution and skill with which this dangerous agent had been administered, and much credit was due to those praiseworthy members of our profession who had devoted themselves specially to this responsible task. It was not in hospitals, however, but in private practice, that, from the want of equal experience, the danger of administering chloroform was greatest. It was accordingly in private practice that fearful events had most frequently taken place. In general, he believed the fatal result had occurred from the influence of the chloroform on the ganglionic system and the heart. In the case before the Society, it was obviously from affection of the spinal system and defective reflex or diastaltic closure of the larynx. This orifice became paralyzed in its excitability and in its contraction, and the blood present in the mouth was drawn into the larynx and bronchial tubes, inducing asphyxia. That the affection took place in the order he had mentioned was obvious from the simplest experiment. If a frog were inclosed in a tumbler inverted over a plate, and exposed to the vapour of five drops of chloroform, it soon ceased from voluntary, and then from respiratory movements; afterwards the circulation failed. He might also remark, that, tried in this manner, chloroform was a far more dire and active poison than even hydrocyanic acid. There was no question, he thought, that the vapour of chloroform was more dangerous than that of ether, and he had often wondered that it should have been preferred as an anæsthetic agent. Before he sat down, he begged leave to communicate a fact of some interest to the Society. The fellows would doubtless remember the case of amputation read to it some time ago, said to have been performed during a state of anæsthesia, induced by mesmerism. It was argued by him at the time, that the reported perfect immobility of the patient proved too much. Volition being removed, there ought to have been reflex movements. He understood that the man had since confessed that he acted the part of an impostor!

Dr. Copland remarked, that one circumstance had not been, he thought, sufficiently noticed by the speakers: he alluded to the question, whether the shock of an operation was greater or not, and more or less dangerous, when chloroform was administered. He believed that the shock was greater, and the danger increased when chloroform was administered; he believed the reaction which followed an operation when no chloroform was given was salutary and advantageous to the patient, and thought the shock was greater when you deadened sensibility in any way. In the case under discussion, it was not known whence the blood in the bronchi had originated. Now when death occurred from chloroform, the lungs were congested, and the blood in a fluid state. Chloroform relaxed the small vessels, and hence we might explain the presence of the blood in the bronchi and air-cells, by supposing it to have been an exudation from the lining membrane, consequent upon the two-fold cause of a relaxed condition of the capillaries, and an unusually fluid state of the blood.

Mr. Tracy said, in this case it appeared, from the statements of all who were present, that the man rallied from the syncope. Now he never heard of, or saw, a case in which such reaction took place, when chloroform destroyed the patient. Was the death attributable to the influence of shock? In no case, he believed, did blood get into the lungs in operations about the teeth and face when chloroform was used.

Dr. Addison said, that in a fatal case which he saw, death was preceded by the cessation of hæmorrhage from the part under the knife; the heart having become remarkably enfeebled, and having ceased to beat. On what grounds did Dr. Snow declare so confidently that the patient did not die of chloroform?

Dr. Snow said, that there was no room to suppose that the patient had died from the influence of the chloroform, for, at the beginning of the operation, when the insensibility was greater than at any subsequent period, the patient was only in what he termed the third degree of narcotism; and the fourth degree, in which there is relaxation of the muscles and stertorous breathing, could be induced with perfect safety, and was often seen in operations. Mr. Barlow had stated that there appeared no other cause for this patient's death than the chloroform; he (Dr. Snow) considered that there were sufficient causes. The operation itself was one which the surgeon considered dangerous, under any circumstances, and thought it his duty to explain that danger to the patient. In this case it had to be undertaken in a subject blanched by previous loss of blood: and again, unusual difficulties were met with during the operation: the tumour could not be all removed, oozing of blood continued, and the wound could not be closed; consequently the operation might be considered, in some sense, as lasting to the time of death. There was also the shock arising from pain, which was altogether prevented, only in the early part of the operation, in this case Of all the operations that he had seen, during the three years that he had constantly attended St. George's Hospital, this appeared the most formidable, and the patients, having recovered from the immediate effects of all the other operations, under ether and chloroform, it seemed hard upon the latter agent that it should be blamed in this case.

Dr. Webster apologised for repeating his question, respecting the morbid appearances noticed in the blood; as he considered them essential in deciding, whether death was produced, in the case under discussion, by chloroform or otherwise. In most of the patients acknowledged to have died from the employment of that agent, air was met with in the heart or veins, whilst the blood was always fluid and black coloured. Undoubtedly, a person might sink from so severe an operation as the one performed by Mr. Hewett, and which was somewhat similar to a case under the care of the late Mr. Liston, where the patient never rallied from the shock, but died very soon afterwards, although chloroform had not been employed. This might also have occurred in the present instance; but he (Dr. Webster) thought, notwithstanding the arguments used, and the explanations made that evening, the death of the individual whose history has been now detailed to the Society, was chiefly owing to the anæsthetic agent employed, and not from the operation, however severe.

Mr. Prescott Hewett replied that no air was found in the heart, and the veins were not examined in reference to the point.

Mr. Charles Hawkins said that conflicting opinions respecting such a case as this prevented younger surgeons from arriving at any conclusion respecting the employment of chloroform in this class of cases. He had seen Mr. Hewett perform this operation, and he never recollected to have seen a parient die so soon after an operation. Patients were rarely, indeed, carried away from the operating table merely to die. The case was more like one in which sudden death resulted from the escape of air into the veins. He would inquire then, what really was the cause of death in this case? Mr. Fergusson did not attribute it to the chloroform, as he had performed the same kind of operation in six cases since this one, under that agent. He (Mr. Hawkins) had been surprised to hear Dr. Copland express his opinion that the shock of an operation was greater under chloroform than without it. He had always thought the contrary to be the case. If, however, Dr. Copland was right, his opinion offered another argument against the use of this agent. He had seen a patient die suddenly from the shock occasioned by the passage of a bougie.

Mr. Cæsar Hawkins said that it was natural for Dr. Snow to throw off the blame from the chloroform; but he (Mr. Hawkins) would remark, that there could be no kind of reflection cast upon the operator; for all who had witnessed the careful and scientific manner in which Dr. Snow administered this agent would be sure that every precaution as to safety would be taken. Now, he believed that the death resulted from the presence of the blood in the larynx, and that this blood would never have found its way into that passage unless chloroform had been administered. It was a very rare accident, and offered no sufficient reason why we were to abandon the use of chloroform. Notwithstanding what Dr. Marshal Hall had said respecting the dangerous character of this agent, it had been employed in St. Bartholomew's Hospital in 6000 cases, and in St. George's Hospital from its first introduction into practice most extensively, and yet this was the first case in either hospital in which mischief had resulted from its employment. No doubt, chloroform was a strong poison, and in St. George's Hospital it had never been given, he believed, as in St. Bartholomew's, in petty operations, such as drawing a tooth &c. The only places, he believed, in which deaths had resulted from chloroform were the Borough hospitals, two deaths having occurred in Guy's, and one in St. Thomas's. In these cases he believed that the chloroform was administered by inexperienced persons, and not, as in most other hospitals, by an operator of Dr. Snow's acknowledged ability and experience.

Mr. **Solly** said that the fatal case which had occurred in his practice had been published by him in all the medical journals. It was quite true that in St. Thomas's Hospital no one was appointed to give the chloroform, but still the effects of the agent upon the patient were watched by a competent person. In his case the surgery-man had certainly held the chloroform, but a dresser watched the patient, and all at once said, "The pulse is flagging." The patient died almost immediately. He thought chloroform killed by paralyzing the heart. In Mr. Hewett's case, he thought the loss of blood produced syncope, and the chloroform so paralyzed the heart as to prevent reaction, and the patient died. In two operations for removal of the upper, and one of the lower jaw, which he had performed, he had relied on the heart recovering from the syncope, to get rid of the effects of the loss of blood, and should not give chloroform when much loss of blood was likely to result from operation. Did Mr. Hewett's patient inhale the chloroform sitting or lying?

Mr. **Hewett.**—Sitting.

Mr. **Benjamin Philips** said that there seemed amongst the speakers to be very great difficulty in arriving at any satisfactory conclusion respecting the cause of death in Mr. Hewett's case. But surely every gentleman present must be aware of the fact, that cases of the kind were by no means of uncommon occurrence before ether or chloroform were employed in surgical operations. A great many cases were on record, where the patient died during the operation; they were as inexplicable as this case, but they did occur when no chloroform had been employed.

A Case of Large Fibrous Tumour of the Uterus.

By R. R. Robinson, Esq.

A tradesman's wife, aged forty, pregnant with her third child, four days before her confinement, slipped down four stairs, without feeling any inconvenience, and on the same day caught her foot against a chair, from which she felt pain in her left hip, which recurred at times subsequently. She was confined at four o'clock in the afternoon; the labour was in every respect natural. The placenta was thrown off by uterine effort in a short time; the uterus contracted well, and there was no hæmorrhage. About two hours afterwards she was seized with cold chills, and upon being put to bed was sick and faint. Mr. Robinson saw her five hours and a half after her confinement, and found her in a state of complete collapse. Fearing there was internal uterine hæmorrhage, and not feeling certain about the state of the uterus, he introduced his hand, and found that organ flaccid, but free from blood. By cold and pressure, and by keeping the hand some little time in the uterus, contraction of a feeble kind was produced, and also a somewhat improved condition of the system generally. She rallied a little, but never fairly got out of collapse; she lived ten days, and died apparently from atonic peritonitis. Upon dissection, twenty-four hours after death, the intestinal convolutions were of dark colour, being smeared with blood, and were united to each other, and to the uterus, by recent and easily separable adhesions. There were three pints of dark, venous blood, without coagula, in the peritonæum, and the tumour. This tumour was covered with peritonæum, an elongation from the uterus, and, at the angle of reflexion, was lacerated to the extent of two inches. These were the leading facts of the case, and as the tumour was surrounded and imbedded in the intestinal convolutions, Mr. Robinson was of opinion that the tumour augmented much during the growth of the uterus, and that, in consequence of being entangled with the intestines, did not move so readily when the uterus contracted, as the uterus, and thus the peritonæum, being put upon the stretch by recurrence of pain, gave way. He merely, however, offered this as a suggestion for discussion.

The author also inquired whether this case, which he believed to be unique, did not offer another reason why premature labour should be induced in cases of fibrous tumours of the uterus, where such could be detected. He did not mean to say particularly in this case, but still this instance was an element in the inquiry into this important point of practice.

After a pause of a few minutes, Mr. **Lloyd** rose to make a few remarks, and, if possible, to induce others to speak. It was said in the paper, that there were three pints of blood in the cavity of the abdomen. He would inquire whether this had been effused suddenly or gradually. It would appear that the patient had suffered from peritonitis, and the intestines were glued together from that cause. He would suggest, then, that the fluid consisted partly of serum, the result of the inflammation, coloured by blood.

Dr. **Reid** had not had the pleasure of hearing the former part of the paper, but from what he had gathered in the latter portion, he understood the author to suggest "the induction of premature labour" in these cases where fibrous tumours of the uterus were co-existent with pregnancy. He must, however, demur to this proposal as a practical rule. In many cases it would be very difficult to determine the presence of such tumours until delivery had taken place; and even in those instances where there was no doubt of their existence, he should still feel disposed to withhold his sanction as to any premature interference, or to the induction of labour, unless special and urgent symptoms required it. There was present in the Society a gentleman, whose wife he (Dr. Reid) had attended in parturition some years since; and in her case, after the expulsion of the infant, a large fibrous tumour could be distinctly felt through the abdominal parietes, at the fundus uteri. Circumstances required that he (Dr. Reid) should introduce his hand into the cavity of the womb, when the tumour was found to project considerably into it, so that there could be no doubt as to its true character. Now this lady has become pregnant three times since; and although she always suffers considerably during the gradual distention of the womb, still she has in each case attained the full term of pregnancy, and has gone through parturition without any symptoms of danger, although in the last labour she bore twins. The tumour was easily distinguished through the parietes of the abdomen after each labour. There were many cases of death resulting from peritonitis and rupture of the uterus during labour, without the conjunction of fibrous tumours; and although the presence of such tumours might occasionally prove a source of difficulty, and even danger, he (Dr. Reid) thought that it would be more prudent to adopt the general rule, not to interfere unnecessarily in these cases.

Dr. **Heale** wished to call the attention of the Society to what appeared to him a very important and interesting fact—namely, that the blood effused into the peritonæal cavity was found, twenty-four hours after death, in a fluid state; that it not unfrequently happened, in making post-mortem examinations, that blood effused into the cavities of the body was found to be fluid; but if it were removed into any ordinary vessel, that it afterwards coagulates,—leading to the inference, that in certain cases there was a persistence of the causes, after death, which, during life, prevented the coagulation of the blood. This fact suggested reflections, which could not be otherwise than very important, since, could we ascertain precisely what these causes were, and under what laws they acted, much mystery, both in pathological and physiological inquiry, would be cleared up.

Dr. Oldham considered the case as one of great interest; as an illustration of a fibrous tumour developed from the fundus uteri—causing the rupture of the peritonæum after a labour, and internal hæmorrhage—it was, so far as he knew, quite unique. He had examined the specimen, and it appeared to be a fibrous tumour, covered by peritonæum, and a considerable layer of the muscular tissue of the uterus, which formed its thick but short pedicle. What was described by the author as an erectile tissue in the tumour, was really, he believed, the enlarged veins of its muscular shell. Tumours like these increased with the progress of gestation, and had a large venous circulation. In adverting to the *cause* of the laceration, he was not disposed to concur with the author in thinking that the intestines had enclosed it in their coils, and so fixed it above, that as the uterus contracted and shrunk below, the tumour was held between these two forces, and the peritonæum of its pedicle was torn. There was no proof in the history and symptoms of the case, or the post-mortem appearances, to justify that view. A similar rupture of the peritonæal surface of the uterus during or after parturition, might occur independently of a tumour. One such case he had seen where death arose from hæmorrhage into the abdominal cavity, in which there was a superficial rent of the serious membrane, and which laid open the subjacent veins and caused the bleeding. In this case, there was an antecedent change in the peritonæum itself, which had become thicker, more opaque, and had lost its vital elasticity. Now a tendency to this rupture had probably been induced by a similar change in the peritonæum in the case before the Society. No one could look at the large tumour overhanging the fundus of the uterus, and not feel that the light rubbing to which the contiguous surfaces must have been subject, which embraced the side of the rupture, would have promoted this change. Then the immediate cause of the rupture was to be referred, in his opinion, to the contraction of the uterus, which exercised a great force directed downwards, while the solid mass above was an antagonist force, unyielding and resistant. This was not felt when the uterus was large; there was no sign of rupture during the birth of the child, or even during the expulsion of the placenta. But it was when the uterus was empty that the rent took place; in other words, it was at the maximum of its contraction, just when the traction would be greatest on the point of resistance, at which point, marking as it did the junction of the tumour with the uterus, the rent occurred. It was an important practical point to be noticed in this complication of pregnancy and labour. The author had suggested the expediency of inducing premature labour in such cases. He had seen three women, one of whom had been twice confined, who had fibrous tumours growing from the fundus. The tumours were readily felt upon the uterus, and could be moved upon their flexible pedicle, which in all these cases was not so dense as in the case before the Society. But it had not seriously entered his mind, for a moment, to interfere with gestation in this; and nothing untoward, either during or after labour, occurred in either of them. In one of them, which was under his care at Guy's Hospital, there were twins. These cases, where the tumor was developed from the fundus, ought to be carefully separated from those which had been referred to where the tumour grew internally towards the cavity, which were much more dangerous. In the former case, however, he saw no propriety in inducing premature labor.

Dr. Robert Lee, having been called upon by the President to state his opinion to the Society on the subject now under consideration, rose and said, that it was known to all pathologists that fibrous tumour was the most common disease of the uterus, and that no uterine disease had been more elaborately investigated. A knowledge of the disease could readily be acquired by any one who would examine the uteri of all the women who died in any of the great institutions in London, as St. George's Hospital. When fibrous tumours are situated under the lining membrane of the uterus, they are usually, in the progress of time, pressed forward, by the contractions of the organ, into the vagina, and there constitute fibrous polypi. By far the greater number of uterine polypi originate in this manner. Sterility is a common effect of fibrous tumours, situated under the lining membrane of the uterus. When they are imbedded in the muscular coat, midway between the peritonæum and lining membrane, if conception takes place, abortion most frequently ensues, because the uterus cannot expand with the ovum. When a fibrous tumour is situated under the peritonæum of the fundus uteri, as in the preparation upon the table, impregnation may take place, and labour may not commence till the completion of the ninth month. In such a case he (Dr. Lee) thought it would not be advisable to induce premature labour, unless great distention and distress were produced by the presence of the tumour. In several cases where these tumours suddenly enlarged during pregnancy, he had been compelled to empty the uterus, by bringing on labour. But the induction of premature labour does not always preserve patients from subsequent mischief; and he recollected a case, in which premature labour came on spontaneously, and the patient afterwards died from inflammation of the tumour and of the uterine and crural veins. The parts have been preserved in the museum of St. George's Hospital. Where large fibrous tumours have been imbedded in the walls of the lower part of the gravid uterus, women have died undelivered. In several cases of this description, when tumours were thus unfavourably situated, he had delivered by craniotomy; or, to avoid the necessity for this, had induced premature labour. Fibrous tumours, embedded in the lower part of the gravid uterus, produce the same effects as distortion of the pelvis, and should be treated on precisely the same principles. If large, premature labour should be induced in the early months of pregnancy; if of small dimensions, about the seventh or between the seventh and eighth months. He had never met with a case, in which laceration of the peritonæum covering the root of the peduncle of a fibrous tumour of the uterus had taken place, and death by hæmorrhage into the peritonæal sac, as in that now related to the Society by Mr. Robinson; nor was he aware that the history of such a case has ever been published. He therefore thought that we were much indebted to Mr. Robinson for the paper which had been read that evening, (though the case occurred ten years ago,) as it would assist us in completing the description of fibrous tumours of the gravid uterus. Perhaps he had said enough on this subject, and ought now to sit down, but a case has occurred since the discussion on ovariotomy took place in the Society, which he should mention, as it showed the difficulty of the diagnosis between tumours, fibrous tumours in the uterus, and ovarian cysts. It was the case of a woman who was operated upon by Mr. Lizars, about twenty-five years ago. It was stated in his (Dr.

Lee's) "Analysis of 108 Cases of Ovariotomy," that the tumour in this case (No. 4) "was solid and vascular, and could not be removed, but that the patient recovered." On the 29th of Nov., 1850, Dr. Tilt sent him a note, in which he said that he had received from Dr. Simpson, of Edinburgh, the following statement: "To-day I saw the dissection of a case, published by Mr. Lizars twenty-five years ago, in his work on 'Ovariotomy.' She was slit open, and then sewed again; the tumour (as seen to-day) was pediculated, but fibrous and uterine, not ovarian." On receiving this information, he (Dr. Lee) immediately wrote to Mr. Lizars, requesting that he would furnish him with an account of the appearances, if he was present at the dissection. He should now read to the Society the letter which was received from Mr. Lizars in reply, and exhibit the drawing which accompanied it.

"Dear Sir: I regret that a call to the country, about twenty-five miles, to visit a gentleman wounded with an axe in the leg, prevented me being present at the post-mortem examination of Magdalene Bury, whom I attempted to operate on some twenty years back. Then, every one who examined her considered the tumour ovarian, and free from adhesions. On making an incision through the parietes of the abdomen, however, innumerable bloodvessels, chiefly veins, some the size of a finger, extended from the omentum majus to the tumour, forbidding all attempts to proceed farther, especially when the veins of the portal system have no valves.

"A young friend who was present has made the accompanying sketch. He says that Dr. Simpson pronounced the tumour ovarian *before he was shown the ovaries*, which were perfectly healthy. Dr. Simpson has tumour, uterus, and part of vagina.

"Charlotte Square, "Yours truly,
Edinburgh, Dec. 3, 1850." "John Lizars."

In handing up the sketch to the President, he (Dr Lee) observed, that, in a practical point of view, he felt obliged to state that he attached little or no importance to the diagnosis between fibrous tumour of the uterus and ovarian cysts and tumours, about which so much had recently been written. In many cases it was impossible to determine whether a tumour was uterine or ovarian; and if the fact could be certainly determined by any means, it would be of no practical consequence.

Mr. **Robinson** said, in reply, that he was gratified at finding that both Dr. Lee and Dr. Oldham considered this case unique. As for the supposition raised by Mr. Lloyd, that much of the fluid described as blood might be serum, effused in consequence of the peritonitis which ensued, he could not say but that some serum may have been mixed with the blood, but he could affirm that the blood very greatly preponderated. Besides, the peritonitis was not extensive, and was confined to the uterus and intestinal convolutions round the tumour, and there were no flakes of lymph floating in it, so that it was very unlikely that the quantity of serum was sufficient to dilute the blood largely. Mr. Robinson thought Dr. Heale's inquiry as to the cause of the non-coagulation of blood effused in serous cavities, worthy to be prosecuted farther. He doubted the validity of Dr. Oldham's conjecture that a great part of the tumour was composed of uterine tissue, because, the tumour being composed of these lobes, a right, a middle, and left, upon this supposition the far greater part of this tumour would be composed of true uterine tissue, which was difficult to believe. With regard to the cause of the rupture, he still thought that it was owing to the entanglement of the tumour amongst the convolutions of the intestines, which hindered it from following the uterus in its descent; and had Dr. Oldham seen how completely it was entangled, he believed that his opinion would agree with his own. The cases mentioned by Dr. Oldham, in which fibrous tumours existed on the anterior surface of the uterus, so as to be felt through the abdominal parietes, and consequently could not be imbedded in the intestines, could not be considered quite parallel to this case. Mr. Robinson further said, that it was never his intention to advise the induction of premature labour in cases of fibrous tumour in general, (as Dr. Lee and Dr. Reid seemed to have misunderstood him,) but solely, that in cases in which other circumstances render such an operation desirable, and in which there is a fibrous tumour existing likewise in the external surface of the womb, that in such cases the possibility of such a rupture of the peritonæum as had been related in the present paper might be an additional reason for resorting to that measure.

Cases of Rupture of the Liver and Spleen.—

By Athol Johnson, Esq., F.R.C.S.

The author narrates five cases of this formidable injury which came under his care at St. George's Hospital. In the first case, death took place almost immediately; the second and third proved fatal at the end of the third day—in each case after some exertion made by the patient; in the fourth case, there was very extensive laceration of the liver, with slight rupture of the kidney; but these were found to be perfectly united, and to have healed in a beautiful manner without any trace of inflammation, when the death of the patient three weeks after the accident, owing to a totally distinct injury, (fracture of the spine in the cervical region,) afforded an opportunity of a post-mortem inspection; the fifth case, in which the symptoms of rupture of the liver appeared well-marked, recovered. The author remarks, that this kind of accident is by no means uncommon, as hospital records prove; that the symptoms are usually sufficently characteristic—viz., intense pain in the abdomen, especially in the region of the liver or spleen, coming on immediately after a severe blow in that situation; extreme collapse, combined with a very exsanguine appearance of the patient, and a certain amount of distention of the belly, this distention not being entirely tympanitic. The pain so much complained of in the first instance is probably not inflammatory, as no traces of inflammation were found in the first four cases examined after death. Subsequently, of course, inflammation may, and very often does, succeed, and is attended with the usual symptoms. The author remarks, that this injury is often considered to be necessarily fatal, it being usually doubted, if the patient gets well, whether any rupture had actually taken place; he therefore considers the fourth case related by him as peculiarly interesting, as in this instance the subsequent death of the patient from another cause allowed it to be actually demonstrated that there had been rupture of the liver, which had healed without any bad consequences to the patient. This appears to be the only case of the kind on record. The treatment, the author thinks, should be directed to the following points:—1. Rather to favour the state of collapse, guarding, of course, against its going too far, in the hopes of checking the hæmorrhage at the time, and allowing coagulation to take place, so as to arrest it in a more permanent manner. 2. To keep the patient in a state of the most perfect rest, not allowing him to make an exertion of any kind himself, and to place him in such a position that breathing may be carried on with the least possible disturbance of the abdominal viscera. 3. To prevent the patient from tossing about, as he is inclined to do from the violence of the pain, and so tending to produce fresh hæmorrhage, by means of the free administration of opiates, such as morphia in camphor mixture, with a little ether, if the collapse be excessive. If inflammation supervenes, it will be treated, of course, in the usual manner.

Mr. **Lloyd** said, with respect to Mr. Athol Johnson's cases, he thought them important in respect to some points of practice in surgery. Cases such as those described by Mr. Johnson were not uncommon. He (Mr. Lloyd) had seen many such during the thirty years that he had been connected with St. Bartholomew's Hospital. The result of his observations had been, that if the effusion were large, the patients died quickly. In these cases there was pain, but no other symptom of inflammation present. When the depression was not so great at first, these patients frequently died of peritonitis; and when treated for this disease from the outset, would often live for weeks. After death rupture of the liver was found. In the treatment for peritonitis in these cases, regard must always be had to the injury which produced it. Moderate abstraction of blood by leeches, the use of calomel and opium, and the warm bath, would afford temporary relief, but they died from repeated attacks. He had seen instances of this kind, however, in which there was every reason to believe that rupture had take place, get well after several attacks of peritonitis. The depletion must never be very active.

Mr. **Athol Johnson** was not aware that any case was on record, in which, after death, union had taken place in a ruptured liver or spleen. Patients so injured were said to have recovered, but no case to prove the conjecture had, as far as he knew, occurred.

Dr. **Copland** spoke of the importance of the subject of Mr. Athol Johnson's communication, and said that the fourth case, in which the patient died from the injury to the spine, showed that rupture of the liver was not necessarily fatal, for in that instance union had taken place.

Mr. **Solly** never recollected a case during the twenty-seven years he had been connected with St. Thomas's Hospital, in which it had been proved by examination, that recovery had taken place after the liver had been ruptured. Cases of severe injury to the liver he had seen recover.

Mr. **Lloyd** believed that he had seen after death, evidence of union of a ruptured liver of old date. Cases in the dead-house he believed had proved this to be the case. On being asked if any such case was on record, Mr. Lloyd believed that no such case had been recorded.

ACCOUNT OF A CASE IN WHICH THE CÆSARIAN SECTION WAS PERFORMED. WITH REMARKS ON THE PECULIAR SOURCES OF DANGER ATTENDANT ON THE OPERATION. By CHARLES WEST, M.D.

The subject of this history was a young woman, aged 27, a patient of Mr. Wren, of Brownlow-street, whose health had always been indifferent, but whose person was not apparently deformed, and who reached the end of her first pregnancy without manifesting any symptoms especially calling attention to the state of her osseous system, with the exception of pains of a rheumatic character and difficulty in walking, which last became very great during the last two months of her pregnancy. When labour came, which it did at the end of the full period of utero-gestation, the existence of extreme pelvic deformity was at once ascertained by Mr. Wren, in whose opinion, as well as in that of Dr. West, Dr. Murphy, and Dr. Ramsbotham, the performance of the Cæsarian operation was indicated. It was accordingly performed by Mr. Skey fourteen hours after the commencement of labour, and eight hours after the rupture of the membranes, uterine action having, however, been feeble from the first, and having almost ceased since the escape of the liquor amnii. The patient was by her own desire subjected to the influence of chloroform before the operation was begun; no difficulty was experienced in its performance; and a living female child was extracted. Very formidable hæmorrhage succeeded the removal of the placenta, and the subsequent contractions of the uterus were very tardy in their occurrence. The patient was left in a state of great exhaustion, from which she never completely rallied, and died in 108½ hours after the operation, apparently from the conjoint effects of the hæmorrhage during the operation, and of the shock to the nervous system. The treatment had consisted in the administration of stimulants and nourishment, both by the mouth and in enemata, and the patient was kept in the same manner almost throughout under the influence of opium. The body, on examination after death, presented no evidence of serious inflammation, but the uterine wound was gaping widely, and even that of the abdominal walls was but partially closed. The pelvis presented, in a most marked degree, all the characteristics of that deformity which is produced by mollities ossium; the pubic bones being projected into a beak 1·2 inches in length, the width of the pubic arch being reduced to ·6 of an inch, and the distance between the tuberosities of the ischia to 1·2 inch. The writer having noticed the high maternal mortality resulting from the Cæsarian section, and which he estimates at much more than the number of 63 per cent., at which the statistics of all cases recorded since 1750 places it, since the results of cases occurring in hospitals abroad yield a maternal mortality of 79 per cent., and of cases in this country of 85·4 or 87·5 per cent., according to two different estimates, proceeds next to point out the causes, apparently inevitable, of this high mortality. These cases he refers to four heads, and illustrates their respective influence by reference to a table of 134 fatal cases in which the body was examined after death. The four heads are as follow:—1st. The danger arising from hæmorrhage, which proceeds from a source different from that whence bleeding takes place in any other operation, and which is not capable of being arrested by the same means as suppress it under ordinary circumstances. 2nd. That dependent on the shock inflicted on the nervous system, as well by the violent interference with the most important process that ever goes on in the organism within the same limited time, as by the injury to a part so important and so richly supplied with nerves as the uterus of a parturient woman. 3rd. The hazard inseparable from extensive injury to the peritonæum, when unblunted in its sympathies and unaltered in its texture, as in cases of ovarian or other tumours, for the removal of which a similar exposure of the abdominal cavity is sometimes practised. 4. That which results from the infliction of a wound on the uterus at a time when, in the ordinary course of things, the processes which nature is prepared to carry on in it consist in the disintegration and removal of its tissue,—processes the very opposite to those essential to the repair of injury. From a consideration of all these sources of danger, to the last of which attention has hitherto scarcely been directed, the author arrives at the conclusion, that they being so serious, and so beyond the power of art to prevent, the rule which forbids the performance of the Cæsarian section, wherever there is a reasonable probability of accomplishing delivery by the natural passages, is founded on solid grounds, and ought to be adhered to.

Dr. **Lee** rose and said—Before offering any remarks on the paper now read, perhaps the Society will permit me to take a short historical review of the Cæsarian operation, and the induction of premature labour. Without this I consider it to be impossible to pronounce a sound practical judgment on the treatment of the case now brought under our consideration. If the Society will grant me this permission, I shall endeavour to make this historical review as concise as possible. It appears from the communication now read, that the Cæsarian operation has been performed about 400 times in Europe; 48 times in the British Islands, and the remainder on the Continent. About 400 cases of this terrible operation have been recorded, but it is well known that many fatal cases have occurred which have remained unrecorded, or consigned with all possible care to oblivion. If the number stated were 500, I believe it would be nearer the truth than 400. I know of two fatal operations which have occurred in this country—one of them recently—of which no account has been, or probably ever will be, published. The statistics of the Cæsarian operation are even more worthless than those of ovariotomy, the value of which the Society can now justly estimate. Dr. Denman says that "Bauhin, in the appendix to Rousset, dated 1588, gives the following case:—Eliza Alespachen had the operation performed upon her by her husband, who was a gelder of cattle, at Siengenhausen, in Germany, in the beginning of the 16th century. She had several children born afterwards in the natural way. If there be any truth in this narrative, it appears that we owe the Cæsarian operation to a cattle-gelder, but whether it be true or fabulous, it is quite certain that the operation was not required; that it was performed wantonly and cruelly, and that if his wife had died, he would probably have been hung for murder, or at least would have merited this capital punishment. Guillemeau, the first systematic writer on midwifery, performed the Cæsarian operation twice in the presence of Ambrose Parè, and some of the most distinguished surgeons of Paris. Both the women died. Guillemeau states that in 1609 he saw the operation performed on three other women in the most dexterous manner, and they all died. Not one of the five survived the operation. In consequence of these disastrous results, the operation was abandoned by Ambrose Parè, Guillemeau, and all the regular or sound part of the practitioners in Paris. "Après que Monsieur Parè non l'eut fait expèrimente," says Guillemeau, "et voyant que le succès en etoit malheureux, il s'est desistè et retraitè de cette operation ensemble tout nostre College des Chirurgiens jures à Paris, et la plus saine partie des docteurs Regens en la facultè de medicine à Paris." The third edition of Mauriceau's great work on Midwifery appeared in 1681, and in this we have strenuously inculcated the same doctrines respecting the Cæsarian operation which Guillemeau, Ambrose Parè, and all the regular physicians and surgeons of Paris had taught at the commencement of the century. Mauriceau affirmed that there were very few, if any, cases of difficult labour, in which an experienced accoucheur would fail to extract the child, dead or alive, whole or in pieces, without the Cæsarian operation. In this sentiment I most heartily concur, having never met with a case of distortion, however great, where I had not succeeded in completing the delivery with the perforator and crotchet. Mauriceau thought that the Cæsarian operation cannot be performed on the living body, without a too great excess of inhumanity, cruelty, and barbarity. His words are "que par un trop grand exces d'inhumanitè de cruautè et de barbarie." He denounced it as a most horrible operation. Some women with cicatrices on their sides, after abscesses, endeavoured to impose upon Mauriceau, by representing that they had undergone the operation, when no such operation had ever been made. Mauriceau's treatise was translated by Chamberlan in 1672, and it soon became the text-book of English accoucheurs, and continued to be such for upwards of half a century. There can be little doubt that this is the reason why the Cæsarian operation was never performed in this country, by any regular practitioner, before 1756, when the induction of premature labour was first proposed. Since that period, and even before, a striking difference has existed on the continent of Europe and Great Britain respecting all the most important operations in midwifery; and it is necessary to explain how this has arisen. It has not been sufficiently noticed, by recent writers in this country, or rather, it has been allowed to pass entirely without remark, that the accoucheurs of France and of England proceed upon principles diametrically opposed to each other, and wholly irreconcilable. In France, the propriety of performing the Cæsarian operation on the living mother, soon after or before the death of Mauriceau, ceased to be a purely obstetrical, surgical, or scientific question, and became a strictly theological one, and was discussed and decided by ecclesiastics of the church of Rome. The fœtus in utero, they maintained, had two kinds of life—one a corporeal, the other a spiritual life, the latter being communicated in baptism; and this supposed spiritual life they regarded as more precious than the corporeal life of the mother. "By the authoritative decision of the doctors of the Sorbonne," says Dr. Merriman, "it was ruled that the Cæsarian operation ought to be performed whenever it is known that the child is living, and it is impossible by other means to extract it alive, for they assert that it is a deadly sin (péche mortel) to perforate the head of a living child within the uterus." This unsound doctrine has prevailed over the the greater part of the continent of Europe to the present time, and it has doubtless been the cause why the long forceps, the operation of turning in cases of distortion, long abandoned in this country by every rational practitioner, but now ignorantly attempted to be revived in Edinburgh, the Sigaultian operation, and the Cæsarian operation, have all been so often had recourse to in foreign countries. Without a knowledge of these facts, it is impossible to account for the irreconcilable differences which exist between Continental and English midwifery; they rest upon different grounds altogether; and those who inculcate French principles of midwifery in this country, which is now done by some teachers and writers to a great extent, seem to be entirely ignorant of the principles which they take up.—About 1756, a consultation was held of the most eminent men at that time in London, to consider of the moral rectitude of, and advantages which might be expected from, the practice of inducing premature labour. Who were present at this consultation Dr. Denman does not state, nor with whom the idea originated, but the first case in which it was deemed necessary and proper, fell under the care of Dr. Macaulay, and terminated successfully. Dr. Macaulay was then the colleague of Dr. W. Hunter, at the Brownlow-street or British Lying-Inn Hospital, and I have often thought that William Hunter was the very man from whose profound scientific knowledge, originality, and humanity, we might expect such a proposal to come. Of this, however, there is no distinct proof, and who actually made the discovery—certainly one of the most important in midwifery—is unknown. This has been the fate of the authors of the most important discoveries in science. It is altogether unaccountable that thirty-nine years should have passed away after the safety, efficacy, and morality of inducing premature labour should have been demonstrated, that the practice should have remained almost unnoticed. From 1756 to 1795, when the first edition of Dr. Denman's "Midwifery" appeared, the Cæsarian operation must have been performed with the most fatal results, fully as often as the safe and simple operation of inducing premature labour. Dr. Denman, in 1795, was only acquainted with eight cases in which premature labour had been induced either by himself or by his advice and persuasion; and he states that he had not known one untoward or hazardous accident that could be imputed to the practice. "He therefore felt authorized to say, that as far as his reason or experience enabled him to judge, the operation of bringing on premature labour is perfectly safe to the person on whom it may be performed. Before Dr. Denman, the circumstances which might render the operation needful and proper had certainly not been stated with any degree of precision, and the morality of the practice was still doubted by many." During the last fifty-five years the operation has been successfully performed in a great number of cases, and the lives of many children preserved by it. There are now whole families in London who owe their lives to it. There is scarcely an eminent practitioner throughout the British empire who has not been called upon to perform it. Dr. Merriman has done it upwards of thirty times. In a note which I received this morning from my colleague, Dr. H. Davies, at Brighton, he states that he has performed the operation fifty times; that twenty-nine children were born alive, and that all the mothers recovered. I have myself performed the operation as many as fifty times with the most complete success. On one patient, with greatly distorted pelvis, I have performed it about twelve times, and the woman is still alive. The operation, I repeat, is most simple, safe, and efficacious, and in cases of slighter distortion, if performed at the seventh month, or seventh month and a half, children are born alive by the natural efforts who would otherwise be destroyed by craniotomy. But it is not alone in slighter degrees of distortion that the induction of premature labour is important, it is equally so in the highest degrees of distortion, where children could not pass through the pelvis without having the head broken up. If, in all cases of high distortion, premature labour were induced about the middle period of pregnancy, or as late as the sixth month, the Cæsarian operation would never be necessary in any case, and the operation of craniotomy, if required, would be attended with neither difficulty nor danger. I believe I was the first who departed from the rule of practice laid down by the systematic writers on midwifery in this country, that premature labour was not to be induced in a first pregnancy till it had been proved that a living child at the full period could not pass through the pelvis till the volume of the head was reduced. In a number of cases in the first pregnancy, where a high degree of distortion existed, I have brought on labour before the seventh month, and thereby avoided all the dangers, both of craniotomy and the Cæsarian section. I take no credit for this, as the idea did not originate with me, but with Dr. Cooper as early as 1769, who had then proposed the following question:—"In such cases, where it is certainly known that a mature child cannot possibly be delivered in the ordinary way alive, would it not be consistent with reason and conscience, for the preservation of the mother, as soon as it conveniently can be done by artificial means, to attempt to produce an abortion?" I am not aware that this practice of inducing abortion, or premature labour, in cases of the highest distortion, about the middle period of pregnancy, to avert the danger of craniotomy and the Cæsarian operation, has been recommended by any other writer in this country or on the Continent. The induction of premature labour, which not many years ago was denounced in France as a useless and injurious operation, as fatal to the mother, and the source of the most frightful abuse, I regard as the most important improvement ever introduced into the practice of midwifery, for it is not only efficacious in all forms and degrees of distortion, but in cases where ovarian, uterine, and bony tumours obstruct delivery; in cicatrices of the vagina, malignant diseases of the os and cervix uteri; in organic diseases of the heart and lungs; in dropsy of the amnion, and general dropsy; renal and vesical diseases; mania during pregnancy, and especially in cases where obstinate vomiting occurs in the early months of pregnancy. It is astonishing how suddenly in some cases of this description the vomiting is relieved when the membranes are punctured, and the liquor amnii escapes. The vomiting ceases as if by magic. Let those attempt to explain this phenomenon, who, by their illegal deeds and misrepresentations, attempt to persuade the profession that the uterus is destitute of ganglia and nerves. I hold in my hand a copy of Dr. Merriman's list of cases in which the Cæsarian operation has been peformed in the British islands, which were as follows till 1820:—

1. Mary Donnelly, a midwife, performed the operation with a razor, on Alice Neal, near Charlemont, in Ireland. Child dead; mother recovered. 1738.

2. Mr. Robert Smith operated upon —— Paterson, in the Canongate, Edinburgh. Child and mother both lost their lives. 1737 or 1757.

3. Dr. Young operated upon a woman about a mile from Edinburgh. She was distressed with a constant vomiting, and I found the pelvis very narrow. In performing the operation, I had no occasion to take up any vessel. Having got into the womb, I could not possibly get the child away till I caused one to press up the head from the vagina, a part of it was so closely wedged in the pelvis. However, I brought away the child alive; but it fell into convulsive fits, and died in a few days. The mother *died*.

4. Dr. Young again operated on a little deformed woman in the Royal Infirmary. The woman *died* in a few days; but the child was alive, and was shown at the class, a healthy, promising girl.

5. Mr. A. Wood is stated, in Dr. Hamilton's "Outlines of Midwifery," to have performed this operation; but no other account is given, except that the child and mother were both *lost*.

6. Mr. Chalmer performed the operation on Elizabeth Clark, in 1774. Child alive; mother *died*.

7. Dr. Hamilton, jun., performed the operation in 1795. Child putrid; mother died.

8. Mr. W. White, of Glasgow, 1775. Both mother and child perished.

9. Mr. Kay, of Forfar. Child born alive; mother lived eleven days.

10. Dr. White, of Manchester. Child and mother both died.

11. Mr. Thompson performed the operation on Martha Rhodes, at the London Hospital, in 1769, in the presence of many physicians and surgeons. The child was extracted alive, fell into convulsions on the next day, and the day after it died. Mother *died*.

12. Mr. John Hunter, in 1774, operated on Mrs. Foster. Child alive; mother *died*.

13. Mr. Atkinson, in 1777, operated upon Elizabeth Hutchinson, at Leicester. Child alive; mother *died*.

14. Mr. Clarke opened the abdomen of a woman, from whom he extracted a dead child. The mother *died*. The child was at the time extra-uterine.

15. Dr. Hull operated in 1794. Child alive; mother *died*.

16. Dr. Hull performed the same operation in 1798. Both mother and child *perished*.

17. Mr. Barlow operated upon Jane Foster in 1793. Child died; mother recovered.

18. Mr. Wood performed the operation in 1799. Child alive; mother *died*.

19. Mr. John Bell performed the operation in 1800, near Edinburgh. Child lived; mother died.

20. Mr. Dunlop, of Rochdale. Mother *died;* child lived fourteen days.

21. Mr. Wood's case. Mother and child *perished.*

22. Dr. Kellie's case. Child born alive; died the next day; mother *died.*

23. Mr. Kinder Wood's case, related in the *Medico-Chirurgical Transactions.* Child and mother *died.*

All the mothers in this catalogue died, except Mary Donnelly, who was operated upon with a razor so dexterously by the ignorant Irish Midwife, and Mr. Barlow's patient; and some still believe that this latter was a case of extra-uterine conception, and that the Cæsarian operation was not performed. There were two histories of the renowned Irish case; but neither Mr. Duncan Stewart nor Dr. King, who gave them, were present at the operation, and there are certain circumstances which throw the greatest doubt upon the truth of the whole narrative. The necessity for the operation could not, however, it is proved, have existed; for the patient had previously borne several children without any assistance, and after the operation she was able to walk about and render assistance to her family, which she could not have done had there existed mollities of the bones of the pelvis. But several besides the midwife assured Dr. King, "that a leg of the child presented itself to view in the vagina before the operation." If this case ever really occurred, which I greatly doubt, the operation was performed without any necessity; why was the leg of the child not seized and pulled down? If this is one of Dr. West's five successful cases of Cæsarian operation in these Islands, it ought to be removed from the list, with Mr. Barlow's case; Mr. Knowles's and Mr. Cluley's related by Dr. Radford, being the only two real cases of recovery out of the fifty performed in Great Britain and Ireland; and whether these persons are now alive, and in what condition they are, no one can tell. In the third case in the above list, Dr. Young's, there is a circumstance related, which demonstrates that the operation was had recourse to in the most reckless and wanton manner, and without the slightest necessity. "Having got into the womb," he says, "I could not possibly get the child away till I caused one to press up the head from the vagina, a part of it was so closely wedged in the pelvis." Actually the head of the child had got impacted in the brim of the pelvis, before the operation. The nineteenth case in the list, is that of Mr. John Bell in 1800, and the history of which has been recorded by Sir Charles Bell in the fourth volume of the *Transactions* of this Society. Why the induction of premature labour was not had recourse to in this case, it is difficult to imagine; the distortion was known to exist years before; the woman had been repeatedly delivered with the crotchet; and yet on this occasion she was allowed to go to the full period, and died almost immediately after having undergone this bloody operation. There are many other cases to which these observations might be applied with equal force in which the operation was unnecessary and unjustifiable.—From the paper now read to the Society, it appears that Mr. Wren saw Mrs. Williams in the fifth month of her first pregnancy, labouring under the characteristic symptoms of mollities of the bones of the pelvis—viz., pain in the region of the pelvis, associated with great and rapidly increasing difficulty in walking. "This difficulty," it is stated, "at last amounted to almost complete inability to walk, and for some weeks before her confinement she did not move farther than from her bed-room on the second floor, to her sitting-room on the first floor, where she passed the whole day lying or sitting on the sofa, and was carried up and down stairs by her husband." "There was nothing in her appearance when she came under Mr. Wren's care," adds Dr. West, "or subsequently to suggest the idea of her being deformed, the only peculiarity being that she always stooped very much forward." On what cause Mr. Wren imagined these symptoms to depend does not appear, nor is it stated whether a suspicion crossed his mind that a destructive disease was going on in the pelvic bones, producing a high degree of distortion. The poor woman looked forward with much apprehension to her labour, as well she might, and extracted from Mr. Wren "a promise that she should be allowed to inhale chloroform when labour came on." I presume, from the total silence on the subject in the paper, that Dr. West knew nothing whatever of the case until the 7th of May, 1850, when labour had actually commenced, and it was determined to perform the horrible operation now described. Had the nature of the disease been ascertained in the fifth month of pregnancy, and the proper treatment adopted, no man of the slightest experience can entertain a doubt that the necessity for this operation—which necessity I do not even admit existed at the time it was performed—could have arisen, and this miserable woman might now have been alive, and the Society spared the recital of this melancholy catastrophe. The case ought to stand as a striking warning to others to avoid similar mistakes.

In January, 1847, the same fatal operation was performed by Mr. Skey, at Bartholomew's Hospital, where great distortion of the bones of the pelvis was ascertained to exist in the sixth month of the first pregnancy; and yet the induction of premature labour was not employed. "The patient, Sarah B——, first consulted Mr. Jolin, surgeon, of Coppice-row, Clerkenwell, on the 3rd of October. She was much deformed, being four feet one inch in height only, and in her thirty-eighth year. Mr. Jolin promptly detected pregnancy, and became alive to the whole extent of her calamitous situation. It was plain that no child could be propelled through the pelvis, the antero-posterior diameter being only one inch and one third, and evident that no resource remained but the Cæsarian section. Mr. Jolin lost no time in holding a consultation with Mr. Skey, and the patient was admitted into St. Bartholomew's Hospital, under the care of the latter gentleman. Then Dr. Rigby, Dr. Protheroe Smith, and Dr. Ferguson, saw the patient, and confirmed the views of Mr. Jolin in every particular." On the 7th of October, this woman was positively ascertained to be pregnant—the catamenia had then ceased six months—she was then, in fact, six months pregnant. On the 23rd of October she was examined by Mr. Skey and Mr. Jolin, and told that an operation was necessary,—in fact, the Cæsarian section. On the 6th of November she was admitted into the hospital, and continued there during the remainder of the month of November, the whole of the month of December, and till the 26th of January, when the operation was performed, in the presence, I have been informed, of several hundred spectators from all parts of the metropolis, summoned to witness this horrible spectacle. The poor woman died in thirty-six hours, and I have been informed that the child, which was extracted alive, has since died in the Foundling. In the whole history of the case, given in a previous number of THE LANCET, there is no allusion made to the propriety of inducing premature labour; and it may be inferred, from the total silence on the subject, that the question was never discussed by those under whose care she was placed. Why it was never mooted does not appear, though a more favourable case never presented itself for bringing on premature labour in the sixth month, and thus avoiding many of the dangers of craniotomy at the full period, and death from the Cæsarian section. It is true, the distance between the base of the sacrum and symphysis pubis did not exceed one inch and a third; but the whole brim of the pelvis was not so greatly distorted, and there was room in the sides of the pelvic brim, if not for the head to pass after craniotomy at the full period, to allow the head of a fœtus of six months passing after being perforated, and then extracted with care and safety. This rage for cruel and bloody operations has spread far and wide, and attempts are being made on all sides in this country, at the present moment, to pervert and corrupt the sound and fundamental doctrines of English midwifery. As a public teacher, and holding a public position, my conscience will not permit me to remain a silent witness of such abominations. This must be my apology for so often appearing before this Society, and occupying so much of their time. I shall conclude, Sir, with the recital of another case, where a similar tragedy was happily prevented. At Cupar, in Fife, in April, 1847, a woman escaped from the horrors of the Cæsarian operation in the most providential and almost miraculous manner. Dr. Simpson declares this case to be unique in the annals of midwifery, and few will differ on this point. The patient, aged thirty-four, was a poor woman with great distortion of the pelvis from mollities ossium. She ceased to menstruate in June, 1846. When she was first ascertained to be pregnant is not stated; dates are not given; but she was seen by Dr. Simpson, with three other practitioners, early in March, 1847. "The sacrum was straight above, so that its promontory did not probably encroach on the brim." It was then decided that the pregnancy was already so far advanced as to preclude, under such a degree of deformity, the idea of the induction of premature labour, and that the Cæsarian operation should be performed. On the 28th of April labour commenced, and a message was sent to Dr Simpson at Edinburgh, thirty miles from Cupar, to go and perform the exploit. He was accompanied by certain professional friends, who were no doubt armed to the teeth, with knives, needles, sponges, bandages, ether, &c. Thus prepared, they proceeded *forthwith to Cupar*. The fellows will, of course, suppose that the operation was performed with the usual results, and that the death of the mother took place. Oh no; no operation was required, and the poor creature is still alive. "On arriving there," says Dr. Simpson, "*we were surprised to hear that the patient was delivered, and our surprise was only increased by learning that no kind of instrumental aid had been required.*" Dr. Lee here sat down amidst the enthusiastic cheers of the Society, and *loud roars of laughter from all sides.*

On the motion of Dr. MURPHY the debate was adjourned until the next meeting of the Society, when a case of Cæsarian section by Dr. Oldham will be read.

Dr. WEST rose and said, that he was fully aware of the great hazard of the operation which had been performed in his case, and had endeavoured, in the paper, to do full justice to its seriousness and importance. With respect to the induction of premature labour, in this instance, it must be remembered that he (Dr. West) had not seen the patient until she was actually in labour, and he was not acquainted with her previously. His object in bringing the case before the profession was to elicit the opinions of the fellows of the Society, whether any means could be devised to obviate the high mortality consequent upon the operation. His own opinion was, that we could not do away with the cause of this great fatality. With respect to Dr. Lee's observations on premature labour, he believed they were the opinions usually taught and entertained by lecturers and writers on midwifery, in England; though he regretted to think that many practitioners in London appeared to underrate the value and importance of that operation. In the case before the Society such a proceeding could not have been adopted, owing to the great extent of the deformity; and should a similar case occur to him, he should feel justified in resorting to the Cæsarian section.

TUESDAY, FEB. 11.

THE rooms of the Society were more than usually crowded this evening, in consequence of the adjourned debate of Dr. West's case of Cæsarian section. The library was crowded to excess at the time the president took the chair, and nearly fifty gentlemen were unable to obtain seats. As many also, we were informed, left the Society from inability to get into the room of meeting. So crowded was the meeting that the ballot could not be proceeded with. Dr. Oldham's paper was read, entitled,

A CASE OF CÆSARIAN SECTION. By HENRY OLDHAM, M.D.

The subject of this case was a rickety, deformed girl, aged 23, unmarried, pregnant with her first child, and seven months gone in gestation, when first seen by Dr. Oldham. On examination, the pelvis was found to be reduced to two inches in its conjugate diameter, and the uterus was much anteverted.* The membranes were punctured for the induction of premature labour, in a few days after she was seen, September 23rd, 1850. On the following morning, the left arm was found in the vagina, but labour did not come on until nine A.M. on the 26th. In twelve hours the os uteri was dilated, and then some attempts to deliver her were made. The child could not be turned; but, by drawing down the protruding arm, which, from commencing decomposition, soon gave way, and pressing the abdomen from below, the head was brought over the brim, and was at once perforated. For four hours the crotchet was employed both inside and outside the head, the bones of which were completely torn up, but without drawing it through the brim. At this time, a new impediment was found to have arisen, from the descent of the right hand and a foot, by the side of the collapsed head, into the pelvic brim: and, on watching the effect of labour-pains, all these parts were felt to be squeezed together in the narrow inlet of the pelvis, each preventing the other's descent. It was attempted to bring down either the foot or hand, but only the slippery tips of each could be touched, and they could not be moved. The patient had now been seventeen hours in labour, and it became a question for serious consideration and consultation, whether she would be able to sustain the necessary efforts for her delivery, and whether it would not be for her benefit to perform the Cæsarian section before exhaustion came on, which at length was determined on. The operation was performed by Mr. Poland, without difficulty, and with little hæmorrhage, the patient being under the influence of chloroform. The incision, five inches long, was slightly curved, and a full-sized seven months' fœtus was removed, and afterwards the placenta and membranes. For two days the patient did well, but then exhaustion came on, and she died. While she lived, she was kept under the influence of opium, and was sustained by simple cold drinks. On post-mortem examination, there were some slight traces of peritonitis near the uterus. The external opening was closed, and its edges adherent, but the uterine incision was gaping. The larger omentum was indurated and inflamed, and so drawn across the uterus, above the incision, as to prevent any discharge from the latter organ escaping into the peritoneal cavity. Two practical questions were suggested by this case. 1st. What was the best plan to attempt to follow out in the delivery at first. 2nd. Were the complications such as to justify the Cæsarian section. With respect to the first, two plans of treatment might be adopted: 1. To induce labour, and deliver by craniotomy; 2. To allow her to go the term, and then perform the Cæsarian section. In determining in favour of the former, the author was guided by the great probability—with a conjugate diameter of two inches—of being able to deliver with the crotchet, and he considered that his inability to do so arose from the complex presentation. With reference to the second, he was induced to have recourse to the Cæsarian section, from a conviction that the patient would probably sink under the prolonged efforts at delivery; and a case was related which occurred in the lying-in charity at Guy's, under Dr. Ashwell, where a woman with a far less contracted pelvis died undelivered, after powerful and sustained efforts to relieve her. It was remarked that the girl had but a feeble constitution, which would ill support so hard a trial of its powers, and the condition of the vagina was particularly noticed as retaining the marks of early age, being structurally weak and easily lacerable, and most unfavourable for a long craniotomy operation. Under these circumstances the Cæsarian section offered a speedy and sure, instead of a prolonged and doubtful, delivery. It was not yet forbidden from exhaustion, or any signs of inflammation; on the score of suffering it contrasted most favourably with the persistence in the use of the crotchet; and, upon the whole, it was judged to offer a better chance of ultimate success. The curve in the incision was suggested to catch the outline of the muscular fibres on the inner surface of the uterus, and so favour the closure of the wound. The scanty hæmorrhage during the operation was in a measure accounted for by the uterus being at the seventh instead of the ninth month, by the placenta being attached to the posterior wall, and the uterus being opened low down towards the cervix, where the veins were less developed. Chloroform was said to be a gain in every way, and the after-treatment by opium appeared satisfactory.

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* The skeleton pelvis was exhibited.

The abstract of Dr. West's paper, read at the last meeting, was read, and immediately afterwards Mr. Wren got up to address the meeting. The president, however, reminded him that Dr. Murphy had moved the adjournment of the debate at the last meeting, and to him was due the privilege of commencing on the present occasion.

Dr. Murphy had moved the adjournment of the debate with great reluctance. Adjourned debates in that Society were seldom desirable; but in the present instance the adjournment would be of advantage, because it was impossible at the last meeting to answer Dr. Lee on the spur of the moment. Dr. Lee had come down to the Society with a written document, prepared with great care, and referring to facts which it was impossible at the time to analyze fairly to answer with effect. He (Dr. Murphy) hoped, however, to be fortunate enough now, by an examination of the facts and arguments brought before the Society, to put the question fairly before the fellows. It would be in the recollection of the Society that Dr. Lee in the communication referred to had professed to give the history of the Cæsarian section. He quoted Guillemeau's ill success and Mauriceau's consequent condemnation of the operation, which he described as being at once *inhuman, barbarous, and cruel.* He showed the effect of Mauriceau's opinion upon the operation, which was silenced not only in France, but in England, Mauriceau's great work having been translated by Chamberlan. The operation was subsequently reviewed on the Continent, not in consequence of any change in medical opinions, but because of the opinions of the clergy. They held that the child had a soul to be saved as well as its mother; and inasmuch as the Roman church required for that purpose a certain rite to be performed while it lived, they could not reconcile to themselves the frequent destruction of the unbaptized infant. Dr. Lee then brought before the Society a table of the results of the Cæsarian section amongst British practitioners; and, casting a doubt on the authenticity of the cases of Mary Donnelly and Mr. Barlow, arrived at the conclusion, that in British midwifery no single well-authenticated instance was on record of a mother recovering after the performance of the Cæsarian section. Dr. Lee then drew a parallel between the advantages of the Cæsarian section and the induction of premature labour in cases of deformity, and having given a history of the introduction of the latter into the practice of midwifery, proved its superior value to the Cæsarian section The gist of Dr. Lee's argument amounted to this. Why did not Mr. Wren, who had charge of this case from the fifth month, having been warned by the presence of what appeared to be rheumatism, great difficulty in walking, and other symptoms, detect the presence of a deformed pelvis in his patient, and induce premature labour? Dr. Lee then alluded to the case which was under the care of Dr. Rigby and Mr. Skey, and inquired why premature labour was not also induced in that case? Lastly, Dr. Lee quoted a case of Dr. Simpson, occurring at Cupar. Dr. Simpson had seen the patient previously to the labour, and had given it as his opinion, that, in consequence of the very contracted state of the pelvis, the Cæsarian section was the only mode in which delivery could be effected. When labour came on, Dr. Simpson was sent for a distance of thirty miles, but before he reached Cupar, the woman had been delivered by the natural efforts. This excited great amusement, and, as the report in The Lancet stated, Dr. Lee sat down amid cheering and roars of laughter from all sides. Now he (Dr. Murphy) respectfully protested against the principle that a Society like that should be made the medium of personal attacks upon our brethren in the profession, because such attacks naturally led to replies, the replies are answered, and retort and recrimination are the result, so that our discussions, instead of being confined to the real questions at issue, became more like the angry altercations of a mere debating club.

The President certainly did not consider that Dr. Lee had been dealing in personalities at the last meeting, or he should have stopped him. Dr. Lee was dealing, as he had a right to do, with individual opinions.

Dr. Murphy admitted the distinction drawn by the President; he knew he would not intentionally tolerate personalities; but still he (Dr. Murphy) contended that unjust reflections cast upon the practice of a professional man were a most serious personal injury to him. They should not be made without just grounds, and were most inconvenient in such a Society as this; they tended to draw us away from the real subject under discussion. He would, however, say no more on this point, but again return to Dr. Simpson's case, which Dr. Lee had very imperfectly stated. From the account given by him the Society were led to believe that there was no distortion in the pelvis, no reason why such an operation should be resorted to, and that delivery by the natural efforts should have been expected as a matter of course. He (Dr. Murphy) held in his hand Dr. Simpson's account of the case—a case which that gentleman considered to be unique, and one to which he (Dr. Murphy) had seen only a similar instance in the Dublin Lying-in Hospital. Now, first, with regard to the pelvis in this case, he would beg permission to read Dr. Simpson's account of it:—"Early in March I visited Mrs. D—— along with Mr. Wiseman, Dr. Graham, and Dr. Grace. I found fully borne out the correct description which had been previously given me of the excessive deformity of the pelvis. The sacrum was straight above, so that the promontory did not probably encroach on the brim;" (here Dr. Lee stops in his account of it;) "but its inferior extremity was strongly and abnormally curved forwards. In front the walls of the pelvis felt doubled and collapsed together, and the outlet, which was the only part that could be very accurately examined, was exceedingly deformed and diminished in size. The transverse diameter was particularly contracted. I found it impossible to introduce two fingers between the tuberosities of the ischia." Such, then, being the pelvis, how was it possible that a child could be forced through it by the natural efforts? The description of the child resolves the enigma: "The infant had been dead for some time *in utero.* It looked nearly its natural length; and as it lay extended on the table, it measured eighteen inches and a half from the crown of the head to the heel; but its limbs and body were thin, lank, and atrophied, and its weight was only three pounds three ounces. Its head appeared very large and disproportionate in size, and indeed had been considered hydrocephalic. This seeming increased volume, however, was not the consequence of effusion, but the result of putrefaction. The encephalon was in a dissolved and semi-fluid state; and as the head lay on the table, it was extended and flattened out laterally and superiorly, as if it consisted of a bag or bladder, half filled with liquid or semi-liquid contents; and such, in fact, it really was. In all, the bones of the arch of the cranium were separated from their attachments, and floated about in the dissolved and liquified cerebral matter. The bones of the basis of the skull were also loosened, and more or less separated from each other—a rare occurrence. . . . . The symphyses even of the inferior as well as the superior maxillary bones, were loosened, and admitted of free motion."* So that it would appear from this description, so minutely detailed, that not a single bone of the cranium was joined together, and the child of course readily passed through under such circumstances. So much for the case of Dr. Simpson. He would now refer to the case of Mr. Wren and Dr. West. Dr. Lee inquired—"Why was not premature labour induced at the fifth month?" He (Dr. Murphy) would put the question to Dr. Lee—"On what grounds should it have been done?" There was no outward sign of deformity; the difficulty of motion was not so great as to lead to the suspicion of the presence of mollities ossium. This patient, the day before the commencement of labour, had actually stood up and assisted in hanging some curtains, so that there was no ground to suspect such deformity as was met with. The Society will also recollect that this was a first pregnancy; and the most eminent authorities laid it down as a rule that the practitioner had no right to induce premature labour in a first pregnancy, as no one could tell beforehand the exact amount of disproportion that might exist, or that the pelvis would not admit of the delivery of the child by the forceps. In this present case Dr. Murphy would defy any one to know beforehand that it would be a case in which the Cæsarian section would be required. Dr. Lee himself admitted that such was the rule of practice, because he claims to be the first who broke through the rule: only twelve years ago in 1838, he for the first time induced premature labour in a first pregnancy, and claims the merit of originality for this operation Mr. Wren, then, only acted on the rule generally laid down, and on this ground, as well as others which he had stated, the Society would at once acquit Mr. Wren of the charge which had been made against him, of want of professional knowledge in allowing the case to go on to the full term. But to return to Dr. Lee's history of the Cæsarian section: he never heard a more ingenious way of getting through a question than that pursued by Dr. Lee. In fact, he had gone quite beside the real question at issue; which was, not between the induction of premature labour and the performance of the Cæsarian section, for no one could resort to the latter when the former could be employed. The induction of premature labour is an operation as much superior to craniotomy and evisceration as it is to the Cæsarian section, and he would ask Dr. Lee how it was that, premature labour being so safely and easily performed, he had enumerated 127 crotchet operations, and had induced premature labour in only six of them? He put this question with great reluctance, in order to point out one of the inconveniences that must inevitably attend the mode of discussion that Dr. Lee had thought right to take on this occasion. The real question at issue was the relative value of the Cæsarian section and craniotomy in certain cases of greatly contracted pelvs, cases in which delivery is sometimes impossible by the ordinary means, and in others attended with such difficulties, in the attempt to deliver by the crotchet, that the danger to the mother is as great as the Cæsarian section. The first case of this kind—one of malacosteon—he (Dr. Murphy) would quote from Mauriceau; his 26th Observation—a most remarkable one, because this was the case given to Chamberlan, to deliver with his newly invented forceps. This woman had been eight days in labour. On the fourth day, Mauriceau saw her, and found that he could not deliver her. Having ordered remedies then popular, to bring on and increase labour-pains, he returned three days afterwards, and having carefully examined her, found that he had not room to move his fingers in the pelvis, much less to use instruments to deliver her. A student of Mauriceau suggested the Cæsarian section; but no, Mauriceau would not hear of it. He would rather allow the woman to die undelivered than undertake such a proceeding. Fortunately, Chamberlan came to his relief. He tried his forceps when the uterus was in a state of gangrene, and of course it was said that all the mischief—rupture of the uterus &c.—was caused by the forceps. He (Dr. Murphy) believed no such thing. It was the first case of mollities ossium, in which even Mauriceau could not effect the delivery. Another case of malacosteon is related by the eminent Hamilton;* the case of Mrs. Scott, who was brought into the Edinburgh Hospital. Labour commenced at three A.M. "At six the pains increased so prodigiously, both in frequency and strength, that there was the greatest reason to dread, during every pain, a rupture of the uterus." An examination being made, no part of the child could be felt; but subsequently, the head being just felt above the brim, it was unfortunately determined to wait a few hours, and in the interval the uterus was ruptured. Mr. W. Barlow had a case of mollities ossium, which died undelivered of ruptured uterus. Mr. Dunlop another. Mr. Ridgeway a third, who was sixty hours in labour; the vagina torn, and died undelivered † If we pass from these to modern authors, Dr. Meigs relates a case, (I am not sure that it was mollities ossium,) in which labour began on the 14th of June, 1831. A consultation of the most eminent men was held on the 16th, when Dr. Physick opposed the Cæsarian section. Dr. Meigs undertook craniotomy, and was from half-past ten P.M. to four A.M., endeavouring to extract the child. He renewed these attempts at intervals during the whole of the following day, and at length, on the third morning, after the patient had been given an opiate, and slept a little during the night, he succeeded. This lady recovered, and was afterwards twice delivered, by Mr. Gibson and Dr. Fox, by the Cæsarian section, with perfect success, of living children. Such is the evidence of the result of extreme contraction in the pelvis; and the last he shall quote is Dr. Lee himself. In his Clinical Midwifery, Dr. Lee relates the case of Mrs. Jarvis. In January, 1830, she was delivered by the crotchet with extreme difficulty. On July 11, 1832, again delivered at the full term with great difficulty; premature labour was not yet induced. But on the third occasion, June 1833, abortion was induced at the fifth month successfully. Again, Feb. 12, 1835, at the beginning of the seventh month, also successfully. But the fifth time, Jan. 19, 1836, Dr. Lee again tried, when the patient was at the end of the sixth month of pregnancy, to induce premature labour. "The os uteri was, however, so high up, that he could not reach it with the point of the finger, or introduce the catheter to perforate the membranes." On Feb. 12, Dr. Lee again tried, and again failed, "partly in consequence of the forefinger of the left hand being nearly deprived of sensation and the power of motion from a dissection wound. Ergot of rye was then tried unsuccessfully, and at length, March 24, Dr. Lee, having had an instrument made for the purpose, succeeded in perforating the membranes. The pains began on Friday the 25th, and continued to Wednesday the 30th, when Dr. Lee feared that it would be necessary to have recourse to the Cæsarian section."* Such, however, was not the case, because, at last, Dr. Lee succeeded, after immense difficulty, in extracting the child—and what was the result? the woman died twenty-four hours afterwards, of eruptured uterus. This was the only case of malacosteon that Dr. Lee had met with in practice. These were the kind of cases that, in the spirit of fairness, should be compared with those in which the Cæsarian section was performed. He (Dr. Murphy) might go into the details of cases showing similar difficulties in cases of rickets, pelvic tumour, &c; but time will not permit; the casts on the table of the Society will speak for themselves. He (Dr. Murphy) maintained, therefore, that when we were so uncertain of saving the mother's life by craniotomy, in such cases we were bound to consider the life of the child, and to give it the chance of being saved by the Cæsarian section; and before sitting down, he would entreat the Society to examine with Dr. West into the causes of failure in this operation, and ascertain whether it is possible, by an improved knowledge, to render it more secure to the mother.

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* Case of Delivery, by J. Y. Simpson, p. 12, 13.

* Outlines of Midwifery, pp. 285, 267.

† Hull's Appendix to Baudeloque's Memoirs, p. 150.

Mr. **Wren** said that the observations he had to make would be short, as much he had intended to have said had been spoken by Dr. Murphy. Whether Dr. R. Lee's remarks were to be regarded as personal or not, he could not help feeling that the observations made by that gentleman affected him (Mr. Wren) seriously, and more particularly as they had been reported in the medical journals. The charge against him amounted to this—that had the patient whose case was before the Society, fallen under the care of Dr. West at any early period of her pregnancy, Dr. Lee believed that the result would have been different. He (Mr. Wren) contended that this assertion was most unwarrantable and unjust. He would beg to ask Dr. Lee whether it was usual for a practitioner to examine his pregnant patient (with the structure of whose pelvis he was ignorant) without a sufficient cause and excuse for so doing. Would permission to do so be granted? He (Mr. Wren) believed that it would not, unless some just and reasonable cause presented itself. Now the symptoms presented in the case under discussion were not such as justified the proposition of such examination, or could lead to the suspicion that disease existed. Dr. Lee had depicted the symptoms in a manner which might lead the fellows of the Society to infer that the patient suffered vastly more acutely than she really did. But he (Mr. Wren) would now trouble the Society with his own version of the symptoms at the time he first saw her, and afterwards, up to the day of the operation, and those marked by inverted commas were the identical words copied and sent to Dr. West. The notes were short, and chiefly from recollection, but they were most strictly and conscientiously correct. "She represented her health as having been always delicate; complained of distressing heartburn, pain in the head and throat, sickness, loss of appetite; stated that she had constant fainting fits—that a morning rarely passed without such. Pulse 130 and upwards; bowels irregular and constipated; dreaded her confinement, and observed that she was sure she could not go through it unless she was rendered insensible by means of chloroform, the effect of which she had experienced.—January 4th. She told me this day, that on the occasion of my previous visit she was nervous and agitated; had had several fainting fits; these usually occurred in the morning, on first awakening; heartburn not relieved. Under the treatment pursued, with little or no variation for nearly three months, she regained her appetite, the sickness subsided, the fainting fits became rare, indeed almost ceased, and she had much more rest at night; her pulse, however, still remained at 120.—March. At the commencement of this month she complained of suffering severely from cramp, and that the slightest exercise produced it; and pleaded this as an excuse for not taking the exercise which I urged. Upon each occasion of my requesting her to allow me to examine her heart, she objected, stating that the medical men who had previously attended her, amongst whom was Dr. Hamilton Roe, had always pronounced the heart to be free from disease; at the same time she remarked, unsolicited by me, that they had all told her her pulse was never less than 120." Now he (Mr. Wren) would ask if there was one symptom that could lead to the suspicion that pelvic disease was present? Were not the symptoms, in fact, such as would or might present themselves in an ordinary case of pregnancy? With regard to the statement of Dr. West, in the paper, that this patient was incapable of walking, he begged to say this was an error—a mistake into which Dr. West might have fallen, from misunderstanding her husband; at all events it was not correct. The husband, in fact, positively affirmed that his wife went daily, and without the least assistance, from the sitting-room, on the first floor, to the water-closet, down three flights of stairs, and across a yard, twenty feet in length. For the last two months of her life, the husband was in the habit of carrying her from her bed to the sofa, and it might be inferred from this that she could not walk, but this would be a mistake. Invariably, when he (Mr. Wren) called to see her, she rose from the sofa, and on his leaving the room, walked to the door and exhibited no signs of lameness or any awkwardness that could lead to the suspicion of the existence of pelvic deformity. It might be inferred, from the remarks made on the case by Dr. R. Lee, that he (Mr. Wren) had frequently seen her in bed; but this he had never done; and she had always found some excuse to prevent him from examining the heart, and remaining in bed. She was a very sensitive person, not giving information about herself readily, and her husband had never made a remark which could lead to the suspicion of any malformation. There was not, as Dr. Lee had stated, violent pain in the chest, extending down the back and loins, nor any symptom whatever of pelvic disease. He had expressed himself perhaps imperfectly, but he trusted that he had said sufficient to justify himself against the charge which had been made against him. (Cheers.)

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* Lee's Clinical Midwifery, No. 148-150, 1st edition.

Dr. **West** now rose, for the purpose of making some remarks; but it being observed by the President that the usual time for adjournment had nearly arrived, and as many fellows were anxious to address the Society, a motion was made, seconded, and unanimously carried, that the discussion be prolonged for half or three quarters of an hour longer, according to the discretion of the President. Hereupon

Dr. **Ashwell** remarked, that it was easy to understand how men enthusiastically devoted to the pursuits of a profession should occasionally express themselves with an appearance of something like personality, when, in fact, after the excitement of the discussion was over, nothing of the kind was really intended. Still it must not be forgotten, that, by energetic collisions of this nature, truth was elicited; and, said Dr. Ashwell, I doubt not that the members of the Society who have entered most warmly into the question now before it would, with great pleasure, and most impartially, accord to Dr. Lee his full measure of praise, if ever he shall again announce and establish other discoveries as illustrious as his demonstration of the uterine nerves. But, Sir, the question now in debate is a most important one, being no less than the determination of the worth and desirableness of the Cæsarian section. Although agreeing in a great deal that Dr. Murphy had said, he still thought the operation was most undesirable, and like all the operations of abdominal obstetric surgery, all but uniformly fatal. In reference to the case brought forward by his friend Dr. Oldham, he did wish that he had persevered for a *longer* period in his attempts to deliver by embryotomy, before resorting to the Cæsarian section. Still, in saying this, he was quite aware that he might be met by the infelicitous result of his own case, which had been quoted by Dr. Oldham, and in the management of which he had enjoyed all the facilities and appliances which Guy's Hospital so richly afforded. It was true that he (Dr. Ashwell) had intimated, in that case, that if he had seen the patient earlier, the Cæsarian section might have been properly resorted to, although it ought to be stated, that, in juxtaposition with that remark, he had emphatically said that premature labour, artificially induced, was the appropriate measure in such cases. Still he was quite aware how difficult, and in some instances, how insuperably difficult, was either craniotomy or the breaking up of the child. This fact (said Dr. Ashwell) ought not to be concealed; for no one, except he has himself had the management of such formidable cases, can form an adequate idea of the obstacles to be overcome. But even with this admission, he (Dr. Ashwell) still said, that in almost every instance this dreadful operation should be negatived. The cases adduced showed how few, how very few, recovered; this brought him to the conclusion that premature labour, and where this had been neglected, craniotomy, and the dismemberment of the child, with all their difficulty and delay, were far preferable to delivery by the Cæsarian section. Certainly, in those unhappy cases where there was a suspicion that the pelvis was deformed, whether from mollities, or independently of this destructive malady, it was the great duty of the accoucheur to examine as early and as accurately as possible—that the membranes might be punctured, and labour induced at as early a period as the degree of deformity rendered necessary.

Dr. **Tyler Smith** thought it should in all fairness have occurred to Dr. Murphy, that by far the greater number of the craniotomy operations of Dr. Lee were performed upon cases of other medical practitioners, to which Dr. Lee had been called at the last extremity, and in which, therefore, no question respecting the induction of premature labour could have been entertained by him. With respect to the Cupar case, it must be considered as one in which nature wisely performed the operation of premature labour, and destroyed the fœtus by rendering the placenta unfit for its support. In the case detailed by Dr. Oldham, it appeared to him a matter of regret that the child was not destroyed at the earliest possible moment after the commencement of labour, or that time was not permitted to elapse after craniotomy, so as to allow putrefaction and softening to proceed before the efforts at extraction were made. In Dr. West's case it was also to be regretted that the attempt to perform craniotomy was not made, particularly as it appeared that Dr. Ramsbotham had leant to this plan in the first instance. In cases of osseous deposit, it was difficult to estimate the amount and density of the bony matter contained in the pelvis. In some cases on record the bony structure had broken down, so as to allow of delivery, and many cases which seem at first to present insuperable difficulties become less formidable when craniotomy is attempted. In most cases it was impossible to say without a trial that craniotomy and extraction might not be performed. It was also unfortunate that no reference had been made in Dr. West's paper to the induction of premature delivery, and no regret expressed that the time for the performance of this operation had passed without the detection of the pelvic deformity. If that regret had been expressed, the operation for the induction of abortion or premature labour and the Cæsarian section, could not have been brought before the Society in such violent collision. He (Dr. Tyler Smith) had understood Dr. West to say, in the few words he had spoken at the close of the last meeting, that the induction of premature labour, so ably handled by Dr. Lee, was fully recognised by the teachers of midwifery in this country. He begged to differ from that opinion. Dr. Lee had referred to the induction of premature labour and also to the induction of abortion in the early months in cases of high distortion—an operation which of necessity sacrificed the ovum to preserve the life of the mother. Dr. West's observations could only refer to the induction of premature labour at a time when the child was viable. He contended, however, that neither premature labour nor premature abortion were held in sufficient consideration by some obstetric teachers, though the operations belonged to this country. Dr. West had himself recently published an elaborate historical essay on the fluctuations of opinion which had existed respecting the merits of turning, and the use of the forceps, in cases of distorted pelvis. Now, it was remarkable, that throughout this essay no reference whatever was made to the induction of premature labour, a more important matter in such cases than either turning or the forceps, which came between them, and without which it was absolutely impossible to estimate their respective merits. Dr. Rigby, also, whose name has been mentioned in connection with one of the cases of Cæsarian section brought prominently before the Society, had written, in his "System of Midwifery," a special chapter on the induction of premature labour, but he had not said one word about the induction of abortion in cases of high pelvic distortion. Dr. Murphy, in his published work "On Difficult Parturition," had only noticed the induction of premature labour in a cursory manner, and as a mode of saving the life of the child. Yet it was, without doubt, one of the most important points in the entire range of obstetrics. Dr. Lee had operated on one patient twelve times, and both the mother and several children were now living. In other cases the ovum had been destroyed many times in succession, in order to rescue the life of the mother. Some obstetricians entertained doubts of inducing abortion repeatedly in the same individual. Denman, who thought the fœtus suffered pain, originated this doubt, but it had not been developed until there were some teachers of midwifery in this country who declared the operation should be performed once only, but that afterwards the wretched woman should be left to take the fearful chances of the Cæsarian section. To say this, was to assume the position of the Supreme Judge. As well might we refuse to cure syphilis the second time. Such a dogma was most monstrous. It was both absurd and immoral, under any circumstances, to prefer the life of an ovum, of four or five months, depending from day to day for its existence upon the state of the mother, to the life of a mature woman; and he trusted that one result of the present discussion would be to bring the subject of induction of abortion, as opposed to the Cæsarian section, into more prominent notice. Dr. West had said, that in similar cases to the one he had related he would repeat the Cæsarian section, but he hoped that before the publication of his paper in the *Transactions* of the Society, some reference would at least be added to the all-important relations of the induction of premature labour and abortion to such cases.

Mr. SKEY apologized for rising to speak upon an obstetric subject; but as he was more or less implicated in two of the interesting cases which had been brought before the Society, he could not help rising and protesting most emphatically against the imputation which had been thrown against the practitioners connected with those cases, of want of judgment and rash practice. With regard to the case of the woman described in Dr. West's paper, Dr. West was himself responsible. When he (Mr. Skey) was called upon to operate, he did not go blindfolded to the proceeding; the operation was considered by all the obstetric physicians present, by Dr. West, Dr. Murphy, Dr. Ramsbotham, and Mr. Wren, to be indispensable. So much for his (Mr. Skey's) connection with that case; further remarks upon it he would leave to others. As to the former case with which his name was associated, Dr. West and Dr. Murphy would seem to imply that that case was under the care of Dr. Rigby. It was not so; he (Mr. Skey), and he alone, was responsible for that case. The woman had come under his care in the hospital close upon the seventh month of pregnancy. What did he do? Was he to take the management of an obstetric case? He knew nothing of obstetricy. (Laughter.) No; but what did he do? Why, he called in consultation almost every obstetric practitioner of eminence; but he had not the advantage of the opinion of his friend Dr. Lee there. (Mr. Skey pointed to Dr. Lee, who sat near him. Dr. Lee bowed.) But he had the advantage of the opinion of Dr. Rigby, Dr. Protheroe Smith, Dr. Fergusson, Dr. Locock, and also of twenty eminent physicians. He begged the physicians' pardon; he meant general practitioners. (Laughter.) He did not recollect their names; indeed they were "legion;" but they were men well able to give an opinion on a practical question regarding this part of their profession. And what was the result? A corresponding statement of opinion of every one. Yes, every one declared that it was too late a period then to attempt to induce premature labour. Yes, he could have twenty names appended to the memorial that it was too late for such interference. Then came this question to him. Should he perform the Cæsarian section prior to the ordinary period of full pregnancy? His own opinion was that he should; but here the physicians stept in again, and said, No! This was the opinion of Dr. Locock and also of Dr. Rigby, and the argument they employed was this: the natural period was the most desirable, and to anticipate a natural process would be dangerous. Well, then, he determined to wait until the ninth month. He took the responsibility of the case fully, but he shared it with two good men, who were cognizant of all the circumstances to fear that he had not been justified in what he did do. But, after all, he was merely a creature in the hands of the obstetric physicians. He had nothing more to say; but he would direct the attention of the meeting to the pelvis of this woman. Here was the monster, (taking it up.) There, look at that, (exhibiting it.) Was there ever such a diameter? One inch and one-eighth in a dry pelvis. What would his friend there have done, (pointing to Dr. Lee, who got up to examine the pelvis.) Would he have tried to deliver in this case on a pelvis with a diameter of an inch and an eighth? He had never heard of anything like it. He did not believe that it could be done. He had spoken out upon the subject, as he felt bound to do. No one had a higher opinion of Dr. Lee than he had, and he had given him the first testimonial with respect to one of his discoveries. He mentioned that, to show that he respected him. He would not dwell upon the subject farther, except to say, that when a question of difficulty arose, and a single mind differed in opinion with the large majority, he did think it became that individual to deliver his opinions with some degree of qualification and hesitation, and not to launch forth condemnation against those to whom he was opposed. (Hear, hear.)

Dr. LEE, who had been absent during the greater part of the evening by unavoidable professional business, having come into the Society a few minutes before, immediately rose after Mr. Skey had sat down, and took up the *monster* pelvis, which Mr. Skey desired might be handed to him. After rapidly examining all its dimensions, brim, cavity, and outlet, Dr. Lee expressed his utter astonishment that this pelvis could ever have been represented by Mr. Skey, and described as a highly distorted pelvis requiring the Cæsarian operation. Holding up the pelvis to the Society, Dr. Lee declared that the outlet was not distorted in the slightest degree; the tuberosities of the ischia could not be less than four inches and a half apart, and the point of the coccyx equally distant from the symphysis pubis. The whole hand might readily have been introduced into the cavity of this pelvis, to direct the perforator and guard the crotchet, had the operation of craniotomy been performed. Dr. Lee said the distance from the base of the sacrum to the symphysis pubis was certainly small, but in the sides of the brim there was sufficient space for the extraction of the head at the full period, and he had no doubt that in this case he could have safely accomplished the delivery with the crotchet even at the time the Cæsarian operation was performed. Had premature labour been induced, even after this patient was admitted into St. Bartholomew's Hospital, the delivery might have been effected with the perforator and crotchet with the greatest ease and safety. Had premature labour been induced when the pregnancy was first ascertained, the operation of craniotomy would have been a very simple and trifling affair. Mr. Skey has informed the Society, with great warmth, that he takes the whole responsibility of this case upon himself, and that he is wholly ignorant of midwifery—knows nothing whatever of obstetricy. The whole responsibility of the operation, he said, devolved upon him; he alone was responsible for all the results, and that he had considered it necessary to protect his character against the imputation which he (Dr. Lee) had cast upon it. Sir, (said Dr. Lee,) I have never considered Mr. Skey responsible for the fatal operation, and I have never cast any imputation whatever upon the character of Mr. Skey, as a surgeon; I have been told that he performed the operation admirably well. Mr. Skey said he took the whole responsibility of the operation upon himself, though entirely ignorant of midwifery; but he had no sooner said this, than he shifted the responsibility to other shoulders, to a great many accoucheurs whom he named. I was not one of the number. The question before us is, not the responsibility or irresponsibility of Mr. Skey, who, as the Society must now perceive, is destitute of all knowledge of midwifery; but the point is, why the induction of premature labour was not had recourse to, when the pregnancy was ascertained beyond all doubt, on the 27th of October, when Mr. Jolin, with Mr. Skey, decided that the Cæsarian operation should be performed? On the 7th of October, 1846, it was positively known that pregnancy existed, and that there was great distortion. On the 27th of October, Mr. Skey decided that the Cæsarian operation should be performed on the 5th November. (I believe it was Guy Faux's day.) The woman was admitted into the hospital to be operated upon; she remained in St. Bartholomew's Hospital all the rest of the month of November, the whole month of December, and during January, till the 26th. If there is any mistake in these dates, let Mr. Skey now correct it, and let him inform the Society why the induction of premature labour was not had recourse to between the 27th of October, 1846, and the 25th of January, 1847? Let Mr. Skey answer this question in a satisfactory manner to the Society. (Dr. Lee here paused, but Mr. Skey gave no answer, made no reply.) I maintain, Sir, resumed Dr. Lee, that the operation was wholly unnecessary and unjustifiable. I have the pelvis of a woman, at St. George's Hospital, far more distorted, who was twice delivered at the full period, and thrice by the induction of premature labour. I requested this pelvis to be placed on the table, but I regret to say it is not there. (A voice in the crowd called out, Here is the pelvis! and it was handed to Dr. Lee, who immediately held up Mr. Skey's pelvis in his left hand, and his own in his right, and begged the Society to compare them. The President desired that they should be handed up to him. Mr. Skey's monster was speedily reduced to its proper dimensions in the face of the Society. Mr. Skey said nothing.) The history of this highly distorted pelvis, Dr. Lee said, had been fully detailed in his Clinical Midwifery. In 1820, he had been called to deliver the patient, who had been forty-eight hours in labour at the full period, under the care of a midwife. The woman was a native of Manchester; more than three hours were spent in dragging the smaller bones of the head through the pelvis; she had suffered much from pain about the ilia and sacrum during pregnancy, and became unable to walk. Dr. Lee recommended the patient to have premature labour induced if ever she became pregnant again, but the advice was not taken, and in 1832 the late Dr. John Prout was called to this patient when in labour at the full period. From the distorted state of the pelvis, Dr. Prout found it impossible to reach the os uteri with the finger, and thought delivery never could be accomplished, but by the Cæsarian operation. The pains being weak and irregular, and no necessity for immediate delivery, Dr. Lee advised delay About twenty-four hours after the commencement of labour, Dr. Golding and Dr Lee saw the case with Dr. Prout, and then the orifice of the uterus was felt considerably dilated, and the head presenting. It was resolved to perforate the head to remove the brain, and leave the case for a time to nature. Fourteen hours after, Dr. Golding passed up the crotchet between the uterus and head, and fixing its point in one of the orbits, succeeded in dragging the head through the pelvis. The patient recovered, as she had in 1820, without a bad symptom. In the month of June, 1833, premature labour, or abortion, was induced in this patient in the fifth month of pregnancy by perforating the membranes. The fœtus was expelled eight days after, without any artificial assistance, and she recovered in the most favourable manner.—On the 12th February, 1835, premature labour was induced in the same patient at the commencement of the seventh month of pregnancy. The fœtus was expelled without artificial assistance, but its head was squeezed so as to be quite flat on the sides. On the 19th January, 1836, when the same patient was at the end of the sixth month of pregnancy, Dr. Lee endeavored to induce premature labour, by puncturing the membranes. He could not succeed, and this partly in consequence of the forefinger of the left hand being, at the time, nearly deprived of sensation and the power of motion, from a dissection wound, followed by deep-seated inflammation of the joints. The use of this forefinger had long been completely regained. The effects of ergot of rye were tried without effect. On the 14th of March another attempt was made to perforate the membranes with Mr. Holmes's instrument, but this did not succeed in consequence of the instrument not being sufficiently curved. Dr. Lee had his probe-pointed stiletted catheter constructed, and with this, on the 24th of March, he at once succeeded in drawing out the liquor amnii. The presentation was unfortunately preternatural, and great difficulty attended the extraction of the child, and the patient subsequently died. Had the head presented, Dr. Lee had no doubt that the labour would have been accomplished with perfect safety to the mother. In the dwarf at Chelsea, whose pelvis was distorted in the highest degree, he and Dr. H. Davies had completed the delivery, and not a single bad symptom followed. Four hours and more were spent in delivering this patient. They took the crotchet by turns, relieving one another when exhausted. The child was literally taken to pieces, and extracted. They were accustomed to call this the battle of Waterloo, from the condition in which they were left after the affair. To this woman I recommended the induction of premature labour in any subsequent delivery. These, Sir, are not the only cases of the highest degree of distortion in which I have succeeeded in accomplishing delivery safely with the perforator and crotchet. Dr. Collins, in a letter written a few days ago, says, "I have never met with any case where I was not able to effect the delivery without resorting to the Cæsarian section." Dr. Joseph Clarke met with no case where it was necessary. Where it is practicable to accomplish the delivery by any of the ordinary methods, the operation is in my opinion unjustifiable. I have seen several cases where it was considered by some, previous to the commencement of labour, that it would be impossible to effect delivery otherwise; but when strong uterine act on set in, their opinions were changed. I am now, Sir, fully satisfied that if, in cases of great distortion at the pelvis, abortion or the induction of premature labour were had recourse to at the proper season, no case could occur in which the Cæsarian operation could be required.—I have been informed, Sir, that during my unavoidable absence from the Society the greater part of the evening, Dr. Murphy has made some observations on my published tabular view of 127 cases of difficult labour in which delivery was effected by the operation of craniotomy. If accurately informed, Dr. Murphy has stated that I could have had no faith in the induction of premature labour, seeing that I had performed the operation of craniotomy 127 times, and that there had been in consequence, and unnecessarily, a great waste of human life. The details of all these 127 cases have been published in my "Clinical Midwifery," and it is very extraordinary that Dr. Murphy should not have known and stated to the Society that in very many of these cases there was no distortion of the pelvis whatever, to justify the induction of premature labour. If Dr. Murphy had ever looked at the table, he would have seen that four of the fatal cases were cases where the operation was had recourse to in consequence of the fœtus being hydrocephalic; that the operation was had recourse to in others, not because there was distortion, but because the uterus had been ruptured spontaneously before I was called to see the patient; that in others there were convulsions, dangerous hærmorrhage, or some serious complication wholly unconnected with the state of the patient. Had Dr. Murphy taken the trouble to look at the table for an instant, he would have seen that in a very large proportion of these cases, before I was called into consultation, thelabour had continued from 40 to 70, even 144 hours, and that immediate delivery was required. Had he looked, Sir, at the table, as he ought to have done, before venturing to criticise my practice here, he would have discovered that I had never seen the patients, and knew nothing of them, till the moment I was called upon to relieve them from sufferings, and that when the results were unfortunate, it was because the operation was too long delayed. In no case, Sir, of distorted pelvis with pregnancy, have I failed earnestly to recommend the induction of premature labour. I have, Sir, the greatest faith in the induction of premature labour, and wish, for the sake of humanity, that I could inspire others with the same confidence. I must apologize to the Society for occupying so much of their time. If any gentlemen have any questions to put to me, here I am to answer them.

Dr. **Webster** here rose to mention a case, but the time of the Society being nearly expired, and there being general calls for him,

Dr. **West** rose, and said, that if when Dr. Robert Lee had borrowed his paper from him, three days before it was read to the Society, he had asked him only a few questions, how much unpleasantness might have been spared. First. however, with respect to his (Dr. West's) statistics of the Cæsarian section; he had not enumerated in his table any case before 1750, because it was from that time that Professor Kaiser, of Copenhagen, had dated his first case; he (Dr. West) did not think it necessary to give cases anterior to that date; they might, therefore, be dismissed. There was only one exception to this, the case of Mary Donnelly; this he introduced, because he believed that it had been well attested, and had usually been referred to in accounts of the Cæsarian section; two medical men had seen the woman previous to her labour, had seen her also a few days after her delivery, when the incision in the abdomen was shown to them. The child's leg was in the vagina previous to the operation, so that it was either a case of Cæsarian section, or ruptured uterus: under either circumstance, the case must be regarded as most remarkable. Mr. Barlow's case had been doubted in consequence of the extreme tenuity of the walls of the uterus when it was cut into; but Mr. Barlow, in his account of the operation, had said that the liquor amnii had come away, the uterus had contracted, and the lochial discharge taken place. The mere tenuity of the uterus was not sufficient of itself, as it was not so very uncommon as to warrant us in rejecting this as a case of Cæsarian section. Dr. Lee, in his table of this operation, had left off at the 23rd case, but since 1821 there had been four successful cases of Cæsarian section in Great Britain; and the case operated upon by Mr. White, of Manchester, might be added, in which the woman lived until the thirty-second day after the operation; dying then from an advance in the disease of the bones of the pelvis, and not from the operation or its consequences. The Cæsarian section, then, was not so necessarily or so invariably fatal as Dr. R. Lee would lead the Society to imagine. Other cases on the Continent had also been successful, and he (Dr. West) did not see why evidence from the Continent on this subject should be rejected. This was all he need say in answer to Dr. Lee. With respect to the observations of Dr. Tyler Smith, and the expression of his regret that craniotomy had not been attempted in his (Dr. West's) case, he would remark, that it was he believed true, that in two cases of softened mollities ossium which had been placed on record, the bones did yield when the instruments were applied, but this was quite an exceptional occurrence, and did not offer a sufficient warrant for a repetition of the operation. If this were attempted and failed, then the subsequent performance of the Cæsarian section was attended with more difficulty and danger. With respect to the absence of any expression of his regret that he had not seen this case sufficiently early to induce premature labour, he might only remark, that he did not expect that opinions would be expressed which had no particular bearing on the paper. For the same reason, he had not thought it necessary or proper to enter upon that subject in the essay alluded to by Dr. Tyler Smith. Dr. West then referred to a report of the proceedings of the last meeting of the Society, in The Lancet, and said that he did not, in his observations, as reported, say, "that he regretted to think that many practitioners in London appeared to underrate the value and importance of that operation." It did not become him to make any such statement, and it was a mistake to suppose that he had. He had also to complain, in the report, that the expressions against himself had been added to with an ungenerous intensity—thus, Dr. Lee had never used the work "abomination," as reported, neither had he held up the operation as a "striking warning to others." Other additions and alterations were made to and in the report; it was not for him to explain or to determine how this had occurred, but such was the fact.* In conclusion, he begged to observe, that in striving laboriously to follow honourably in the footsteps of those who had gone before him in his department of the profession, he could not but regard such statements, coming from a gentleman in Dr. Lee's position, as likely to injure him, who was comparatively a young man; and he would appeal to the Society, whether such attacks were either generous or just. (Hear, hear.)

Dr. **Robert Lee** said that he had used the expressions which Dr. West had referred to, and saw no reason whatever to retract a single word that he had employed in the last discussion. He would repeat, that the operations, as performed, were abominations.

The **President**.—Surely, Dr. Lee, you are not justified in using that term in an offensive or personal sense!

Dr. **Lee** had not used it at all in a personal manner, nor to hurt the feelings of Dr. West, or any other gentleman. He had merely applied it to the proceeding.

Dr. **Addison**.—As I understand you, you mean that any one holding your opinions on the question of the Cæsarian section would be guilty of abomination if he performed it under the circumstances detailed.

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* We can assure Dr. West that no one would regret more than we should any error in a report in this journal. But surely Dr. West might have seen or explained that the "mistake," to which he alluded consisted simply in the substitution of the word *think* for *hear*—hardly, however, a mistake, taking the context into consideration. However, the expression of such a regret could be nothing but honourable to Dr. West. Dr. Lee sufficiently vindicated the correctness of the report, so far as the use of expressions which Dr. West declared were not employed, and we challenge Dr. West to show a single sentence, a single expression, to which any "ungenerous intensity" was "added." We are not responsible for the opinions of a speaker, as Dr. West must know. With respect to "additions" to Dr. Lee's speech, they consist merely of an occasional word or few words, to elucidate more clearly *facts* which Dr. Lee mentioned somewhat hurriedly in his rather energetic address. The additions Dr. Lee made did not interfere with the truthfulness of our report, but added to its value; no "alterations," as Dr. West stated, were made. In the present report we are indebted to Dr. Murphy for references to the cases mentioned by him in his speech.

Reporter of The Lancet.

Dr. **Lee** bowed assent.

Dr. **Oldham** said, that the observation of Dr. Ashwell, that he regretted that more attempts had not been made, in his (Dr. Oldham's) case, to deliver by instruments, surprised him much, for Dr. Ashwell had immediately afterwards said, that in such cases the difficulty of delivery was almost insurmountable. If he (Dr. Oldham) had gone farther than he had done, in his attempts at delivery, he should have let the golden moment go by, and dared not have ventured on the Cæsarian section. Dr. Ashwell's patient had died undelivered; might not the Cæsarian section, if early performed, have been a better proceeding? With respect to the earlier performance of craniotomy, as mentioned by Dr. Tyler Smith, the peculiarities of the complicated presentation which he had detailed in his paper had rendered it impossible to perform the operation before he did.

MEDICAL SOCIETY OF LONDON.

SATURDAY, JAN. 11, 1851.—DR. J. R. BENNETT, PRESIDENT.

NEW PREPARATION OF IRON.

Dr. **Routh** exhibited to the Society two specimens of phosphate of iron dissolved in metabasic phosphoric acid—one in a solid, the other in a fluid state. The compound was prepared by adding as much phosphate of iron as the metabasic phosphoric acid in a boiling state would take up, and allowing it to cool. The proportions would be found, as nearly as possible, two of acid to one of the phosphate. The solution obtained was of a semi-transparent greenish or slaty hue. If exposed to the air for a day, it hardened; but mixed with liquorice powder or flour, it could be made up at once into pills. The compound was soluble in any proportion of water, and free from any nauseous, inky taste. Dr. Routh had not analyzed it, and could not assert whether it was simply a solution of the phosphate in the acid, or a new superphosphate that was formed. He had given it largely. It appeared to him to be better adapted and more speedy in bringing about a cure, than other preparations of iron, in some cases of anæmia and debility, brought on by venereal or other excesses, over-study, and other depressing diseases in which there was a prevalence of nervous symptoms, and a large quantity of phosphates voided by the urine, *i. e.*, as the former might be considered to supply the amount of carbon necessary for combustion directly to the lungs, thereby checking the drain upon the system, and allowing it to rally from its hectic state; so he supposed the present remedy supplied directly to the brain the amount of phosphorus necessary, to the undue diminution of which the nervous disorder was probably due. The medicine did not gripe or constipate. He gave it in doses of one or two grains three times a day.

In answer to a question, Dr. Routh stated that he had obtained one specimen from Mr. Morson; but most of that he had employed had been prepared by Mr. Greenish, of New-street, Dorset-square.

Dr. **Snow** read a paper

ON THE INHALATION OF VARIOUS MEDICINAL SUBSTANCES.

He said, that previously to the discovery of etherization, medicines had rarely been inhaled, except with a view to their local action; but that there was no more reason to limit inhalation to pulmonary diseases, than to restrict the exhibition of medicines by deglutition to affections of the stomach and bowels. He admitted, however, that the proper administration of medicines by inhalation was attended with much greater difficulties than their exhibition in the usual way. The chief object of his communication was to point out the manner in which certain medicines could be inhaled. According to their different physical properties, they might be inhaled either with or without the aid of heat; and when heat was employed, they might be inhaled either in the dry way, or with the vapour of water. The inhalers employed were described in a former number of THE LANCET. The fumes expelled by heat from the extracts of opium, stramonium, and aconite, were inhaled dry. Ammoniacum and other gum resins could be inhaled either in the same way, or with vapour of water. Turpentine, creosote, camphor, iodine, and benzoic acid, had been conveniently inhaled along with watery vapour, by placing the dose of medicine to be used in about half an ounce of water, which was heated by the flame of a spirit-lamp. Several of these medicines had also been inhaled at the ordinary temperature of the air, without vapour of water, as also had ammonia, hydrocyanic acid, and chlorine. For drawing nitrate of silver into the larynx in the form of powder, the bowl of a pipe, with a glass tube fitted into it, was used. A grain of nitrate of silver, finely powdered with five grains of loaf sugar, were inhaled, by a strong inspiration, once a day. The sugar was recommended by a French author for diluting the agent, and had an advantge over lycopodium powder and similar substances, which, not being soluble in the mucus of the air passages, caused irritation. At the hospital for consumption at Brompton, the physicians to which institution had invited Dr. Snow to assist in contriving and superintending the inhalation of medicines, opium had been inhaled by a considerable number of phthisical patients, generally with marked benefit. Relief had also been obtained from several other medicines: but the inhalation of iodine and chlorine had apparently not been attended with any advantage. It might not be uninteresting to mention that, while four patients were inhaling chlorine twice a day, in the summer of 1849, two of them were attacked with cholera, they being the only patients in the hospital that were attacked with it at the time. As chlorine can be smelt exhaling in the breath for hours after the patient has inhaled it, he thought that this occurrence was opposed to the hypothesis, that the diffusion of chlorine in the air had the power of limiting or preventing the spread of cholera. It was not his intention to treat of the inhalation of chloroform on the present occasion; but having been speaking of pulmonary affections, he might state that he had never seen chloroform fail to relieve an attack of spasmodic asthma in any case in which it had been inhaled.

In the discussion which ensued, several fellows took part. The views advanced were generally in support of the opinions expressed by Dr. Snow, whose labours on the subject of the inhalation of medicines were spoken of with much commendation.

SATURDAY, JAN. 18.

PLEURODYNIA—PLEURISY—EFFUSION?

Dr. **Ogier Ward** wished to obtain the opinion of the Fellows respecting the case of a gentleman, forty years of age, then under his care. This gentleman, of the nervous temperament, was seen by Dr. Ogier Ward on account of pain in the left side, with dyspepsia. The chest was examined, and the pain pronounced to be pleurodynia. Some medicine was ordered, and mustard poultices with a stimulating liniment to the side. He appeared to be getting better; but, the bowels being confined, pills of mercury, colocynth, and hyoscyamus, were ordered to be taken at bed-time. He slept but little, and the next day was extremely prostrated, with pain in all his limbs. When seen by Dr. Ward, he complained of pain in the bowels, with great flatulence, pain in the left nipple and in the back, with tenderness of the muscles. Dr. Ward examined the chest, and found complete dulness over the lower part of the left side; no sounds whatever being heard on applying the ear. On the right side respiration was clear, but not sufficiently so to be called puerile; respiration was equal in the upper parts of both sides. The dulness persisted, and occupied the same site, notwithstanding a change of position. The ribs on the affected side did not expand equally with those on the right side, and pain was complained of on pressure in the intercostal spaces. There was no dyspepsia or cough, nor any enlargement of the left side, but rather a shrinking, or collapse. The tongue was clean, the pulse feeble and not quicker than natural. The history of the case did not disclose any antecedent disease. Dr. Ward considered this to be a case of considerable interest as to the cause of the dulness. The question was, whether sudden effusion had occurred, or whether there was congestion of the lungs sufficient to compress the bronchi and prevent respiration. Some opinions were expressed as to the nature of the disease, but they were speculative only, in the absence of personal observation of the patient.

ENCEPHALOID DISEASES OF THE PERITONÆUM.

Dr. Beck exhibited the uterus, ovaries, and portion of the large intestine, taken from the body of a woman who died from cancer of the peritonæum. When she came under observation, she was emaciated to an extreme degree, yet with no appearance of malignant disease in her countenance, only that of emaciation from starvation. She complained of no pain, yet the abdomen was distended with fluid, and covered with dilated superficial veins. She had also obstinate constipation of the bowels, and constant vomiting of stercoraceous matter. Some of the symptoms detailed led to an examination of the uterus, when the orifice was found patent, admitting the end of the finger, deeply fissured, and the lips enlarged. On passing the fingers behind the organ, it came into contact with a round smooth body, which gave the impression of great size and weight, and was immovable in the pelvis. It also pressed against the rectum, and was considered to be a fibrous tumour, and the possible cause of the constipation. Enemata with a long flexible tube, passed a considerable distance up the rectum, were employed. On passing the tube it came to a part of the gut which was evidently constricted, and appeared to pass round a substance of some size. Some fæcal matter was evacuated by these means, and the patient expressed herself as being relieved. The vomiting also ceased for a short time; but it soon returned, and it became evident that this was not the only seat of the obstruction. She gradually sank, from inability to take and digest her food. At the examination of the body after death, the abdomen was distended with dark brown-coloured serum; the small intestines were much distended, with light yellow fæculent matter, mixed with some harder lumps. Both the parietal and the visceral peritonæum were much thickened, of a grey, somewhat translucent appearance, and dotted over with small masses of cancer, varying from the size of a pin's head to that of two peas. The edges of the intestines were deeply injected, of a dull red colour. The omentum was much wrinkled up, and infiltrated with similar matter. The uterus was of the natural size, but united into one firm mass, with the ovaries and middle portion of the rectum. No malignant deposit was found in any of the viscera, except one nodule in the pylorus, and it was doubtful whether this were not in the subserous cellular tissue. The intestines were much twisted from their natural positions in the abdomen, and the seat of the constriction was found to be near the termination of the small intestines, and was produced by the contraction of the mesentery drawing the intestine into an angular fold, and so obstructing the passage of the fæces. On more careful inspection, the peritonæum was found little altered; but the subserous cellular tissue was much thickened by the deposit of fibro-plastic material. The cancer was deposited in isolated small nodules, chiefly above the course of the blood-vessels, and these probably, by exciting inflammation, led to the deposit of fibro-plastic matter, by the subsequent contraction of which the displacement of the intestines, and the ultimate obstruction to the fæces, was accomplished. The cancer was deposited immediately beneath the peritonæum, in masses of a round or oval form, of a grey, somewhat semi-translucent appearance at the circumference, with a light-yellow opaque centre, extremely like tubercular material. Examined by the microscope, the grey portions were seen composed chiefly of a transparent stroma, containing many granules and numerous cells. The cells were round or oval, of various sizes, yet all small, with defined outline, thickened capsule, and granular contents. Some of these contained two, three, or five nuclei, whilst others appeared not to have any. By the action of acetic acid, the capsule and contents became more transparent, and the nuclei more distinct. The light yellow central portions consisted of nuclei, identical in appearance to those already described, yet with a decided yellow tinge of colour. The stroma was less in quantity, the cells were more crowded together, and the granules in greater abundance. The left ovary was dilated into a thick sac the size of a hen's egg, containing clear light-brown fluid. The interior of the sac was lined by a loose red coagulum. The right ovary formed a mass of solid cancerous disease, in size a little smaller than the left. Covering the ovaries and body of the uterus, and uniting those to the rectum and cellular tissue in the pelvis, was a thick layer of grey thickened subserous cellular tissue, closely dotted over with small nodules of cancer. The contraction of the material had bent the uterus upon itself, anteriorly presenting the curved body of the organ to the finger introduced into the vagina. This smooth rounded surface, coupled with the firm agglutination to the surrounding structures, gave to the finger the feeling of an enlarged and weighty organ pressing upon the rectum. The substance of the uterus was pale, and rather firmer than usual, presenting numerous yellow points on the cut surfaces, which were principally seated near the fundus. They were found to be the diseased blood-vessels surrounded by a yellow-coloured cellular tissue, infiltrated in which were some cells identical in appearance to those already described as formed in the masses beneath the peritonæum. The neck of the uterus was in no way altered from the natural appearance—the orifice large, open-fissured, and the lips swollen. Surrounding the orifice were several small round transparent bodies, filled with transparent white-of-egg mucus, and at one side of the orifice a rounded sessile mass projected from the lips. This on being opened was seen to be a cyst filled with transparent white-of-egg mucus, which contained, at one part, many compound granular corpuscles and fat globules. There was no ulceration or excoriation present. Apart from the interest which this case presents, as one of malignant disease infiltrated beneath the peritonæum, thus giving rise to inflammation and the exudation of fibro-plastic material, by the contraction of which latter produce great displacement of the viscera was produced and permanent obstruction of the intestines, it offers an excellent demonstration of some of the errors which have been imported from abroad into the department of pathology. It is said, that the body of the uterus is not liable to inflammation, because there is no cellular tissue in the part. Here is a demonstration, not only that this tissue exists, but that it is infiltrated with cancer-cells. Again, this patent state of the orifice is said to be "pathognomonic" of ulceration, yet no ulceration is here present, nor is there any excoriation. The fissures at the orifice have also been said to depend on lacerations during parturition, whilst here they are shown to depend on a swollen state of the structures of the neck, depending upon an enlargement of the glands by retention of their contents, the structures being constricted within a circumscribed compass, and hence becoming folded, and forming fissures between the folds.

Dr. Henry read a paper on—

THE ASSIMILATIVE FORCE IN RELATION TO HYPERTROPHY AND ATROPHY.

The object which the author had in view was to draw attention to the assimilative force as a primary element of disease. The subject was treated of under the following heads:—1. The assimilative power as a physiological element. 2. Excess of the assimilative force, the essential element in hypertrophy. 3. Defect of this power an element in atrophy. 4. Therapeutic indications. (1.) The assimilative power was defined to be that force by which the tissues of the body appropriate the plastic material presented to them. The distinctions between growth and reparative nutrition were pointed out, and the varying degrees in which the assimilative force exists in different tissues were referred to. (2.) Hypertrophy was treated of as congenital or intra-uterine, as produced by increased functional exercise, or as arising from increased and long-continued afflux of blood to a part. The cases of congenital hypertrophy, in which a limb, or part of a limb, far exceeded in proportion the other parts of the body, were not easy to be explained. If the primary phenomenon were an increased flow of blood, the cases tended to show the great amount of assimilative power possessed by the fœtal tissues. In hypertrophy from exercise, the nutritive force was believed to be increased in consequence of the demand for a quantity of tissue adequate to perform the increased amount of duty. In hypertrophy, from long-continued afflux of blood, Dr. Henry believed that it was only tissues of low organization—certainly not muscles or nerves—which could assume increased growth. In the vicinity of old ulcers, there was frequently a growth of hair—an epidermic tissue. (3.) Atrophy was considered, according to its occurrence from diminished supply of blood, from cessation or impairment of the functions of an organ, from over-exertion or exhaustive exercise, and as general atrophy in fevers, &c. Of atrophy from over-exercise, the instances adduced were the effects of long-continued pressure on the epidermis, and the *atrophie musculaire progressive* lately described by Dr. Aran, of Paris; and both were considered as connected with an exhaustion of the assimilative power engaged in reparative nutrition. Dr. Henry then referred to the views of Dr. Hodgkin on the non-removal of the products of the waste of the tissues during fever, and believed that the reparative power was impaired; and that this would explain the loss of appetite, and the danger of too rapidly improving the state of the blood during convalescence.

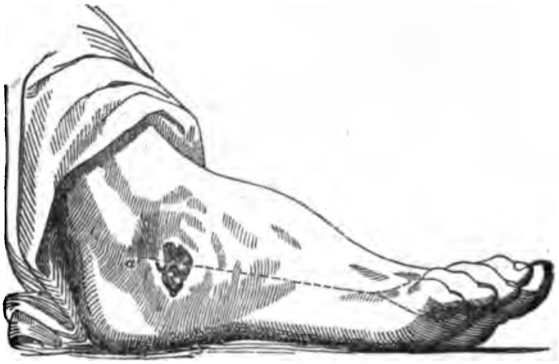
The paper concluded with a few therapeutical observations. The discussion which ensued was joined in by several fellows.

January 25.

REMOVAL OF THE CUBOID, TOGETHER WITH THE TWO OUTER METATARSAL BONES AND TOES.

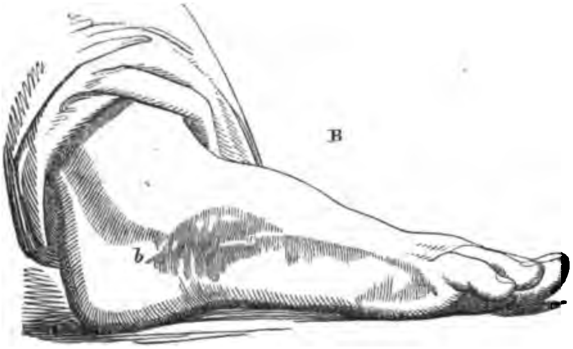
Mr. Coulson, after referring to the interesting opertions of Mr. Hancock for the removal of the oscalcis, which were first made known to the profession at the Society, and also to the important and singular operation of Mr. Thomas H. Wakley, of the removal of the os calcis, together with the astragalus, related the following case of Excision of the Cuboid, with the two outer Metatarsal Bones and Toes:—

A. F——, aged twenty-two, always enjoyed good health till last March, when he had an attack of pleurisy, which lasted about twelve days. In the middle of May, after considerable exertion, he first observed a swelling on the outside of the right foot, which soon become red and painful. This was treated in the usual way, (by poultices and fomentations,) but still it increased in size. In July the swelling was freely opened, and a good deal of cheese-like matter removed. The wound, however, continued to discharge, and it was soon discovered that the bone corresponding with the opening was diseased. He was then very properly advised to have an operation performed, either for the removal of part or the whole of the foot. Mr. Coulson saw the patient on the 17th of October last, when he found a sore on the right foot, of the size of a shilling, corresponding to the cuboid bone, from which there was a good deal of sanio-purulent discharge. On introducing a probe through the wound, the bone could be felt distinctly carious. The foot was generally swollen, but there was free motion of the ankle-joint. For some time past the pain on attempting to put the foot to the ground had been excessive; and at night, as soon as he became warm, he was racked with violent pains, which prevented him from having any sleep for weeks together. The discharge of matter, from the middle of July to the time Mr. Coulson saw him, had been very great; latterly it had been thick, and sometimes tinged with blood. He seemed very much worn by his sufferings, and was looking pale, thin, and exhausted. There was no hereditary complaint of any kind in the family, and the patient had never required medical advice till March last. It was a matter of uncertainty to what extent the bones of the tarsus were affected, especially as the pain and swelling were so great; but the greater probability being that the cuboid only was affected, Mr. Coulson determined at first to remove this bone, and if the disease were found to extend beyond, to perform Chopart's operation, or remove the foot at the ankle-joint.



This drawing shows the state of the foot before the operation. *a*, the wound, and line of incision.

An incision was carried from a little beyond the wound posteriorly, along the outer part of the dorsum to the extremity of, and around, the second and first toes; the skin was dissected upwards and downwards, so as to expose the cuboid and the two metatarsal bones. The knife was then carried along the inner side of the two metatarsal bones, little or no skin, except at the extremities of the toes, being taken away. The bones were disarticulated from the cuboid, and the cuboid easily detached from the os calcis by means of a gouge. The disease was found to be situated in the cuboid only, the os calcis and other bones, as far as could be ascertained, not being affected. The disease was situated in the cancellous structure, the cells having been enlarged principally through the breaking down of their walls, for the bony *débris* was discoverable amongst the other contents of the cells. The lining membrane of the cells was intensely red, and the inflammatory action had commenced from the centre, and extended towards the articular surfaces, which were, however, healthy. The contents of the enlarged cells were principally composed of well-formed pus. The healing of the wound proceeded very favourably, and at the end of December he left town.



This drawing, B, represents the foot after the operation; *b*, the cicatrix.

In a letter on the 16th of this month, he says that his foot is fast gaining strength, so that, with a little assistance from two sticks, he can walk very nicely. Simple as this operation is, Mr. Coulson could find few cases of it on record. In Averill's "Operative Surgery," second edition, p. 184, a case is recorded in which Mr. Key, in 1825, removed this bone, together with the cuneiform and two or three metatarsal bones, on account of an injury to the foot, Mr. Key's object being to save the great toe: the operation was completely successful. At the meeting of the British Association for the Advancement of Science, held in Dublin, in 1835, Mr. Whatton, of Manchester, advocated the longitudinal operation, and showed a patient, from whom he had removed the three outer toes and external cuneiform, together with the cuboid, who could walk without even a halt. Professor Syme, to whom Mr. Coulson expressed his obligation for this information, considers the chief objection to all such operations as these, the risk of relapse, and is inclined to think the ankle-joint amputation a more efficient mode of affording relief, with few exceptions, when the disease affects the tarsus. Mr. Coulson hoped that the case related to-night would prove successful, as the disease had existed so short a time, and made so little progress.

NEW MODE OF PRESERVING PATHOLOGICAL SPECIMENS.

Mr. Robertson, of Mortlake, exhibited a very beautiful morbid specimen, which he had succeeded in preserving in arseniuretted hydrogen. The plan he pursued was, to place the preparation in a bottle, in which the gas had been introduced, and hermetically seal it under mercury. The specimen retained its original appearance, and was altogether the most perfect specimen of the kind we ever saw. It had been in bottle for four months.

Mr. Thomas H. Wakely exhibited a set of

NEW INSTRUMENTS FOR THE CURE OF STRICTURE.

Mr. Wakley said that he should have preferred sending a paper with the instruments, giving a full description of them, and the details of a few cases in which they had been used, but he had been informed that the "list of papers" for the remainder of the session was full. He therefore availed himself of the opportunity thus afforded by the regulations of the Society for submitting the instruments to their consideration at that time. He remarked, that the subject of the treatment of stricture of the urethra had been much discussed within the last year or two, and had given rise to a great deal of controversy. It certainly was not a settled question what should be done in cases of severe permanent stricture. Mr. Syme, the distinguished surgeon of Edinburgh, had, as was known, recommended, where the ordinary means of treatment had failed, the division of such strictures by perinæal section. Probably, the instruments which he then had the honour of bringing before the notice of the Society would, in some cases at least, render such an operation unnecessary. He had used them in several cases already with very satisfactory results. The instruments he at first used were by no means of a refined or perfect manufacture, yet the advantages obtained were of a decided character. The instruments he now produced had been manufactured by Messrs. Weiss & Co., and, as might be expected, they were very perfectly executed. They consist of—

1. A catheter, thirteen inches in length, of a very small size, slightly curved at the extremity; the stem quite straight, and having at the end a worm, for the reception of the screw of the directing rod.

2. A small thumb-slide, (removable at pleasure,) screwing closely upon, and acting as a handle to, the catheter.

3. A steel rod, which passes into the catheter as far as the screw, at which part both are united by two or three turns of the rod. The rod makes an addition of five inches to the length of the catheter. The rod and catheter combined form the index-rod, or director, for the metallic and elastic tubes.

4. Of the silver straight tubes, there are nine of graduated sizes; the first is only one size larger than the index-rod, and the others regularly increase in circumference; the last, or No. 10, corresponding with that number of the ordinary bougie. These tubes are all of a conical shape at their distal extremities, and are so constructed as to fit the mouth of each tube with extreme exactness at the surface of the index-rod. They thus slide with the most perfect ease along that guide, and being directed by it, if the rod be in its proper situation, the tubes cannot take a wrong course or make a false passage, but must pass through the stricture.

5. There are also three *elastic tubes*, composed of a flexible metal, covered with elastic-gum fabrics. This combination gives to the instrument very considerable strength, without rendering it clumsy or bulky. The extremity of each of these flexible tubes has the same form as that of the silver tubes, and fits with perfect accuracy the surface of the index-rod.

Supposing, then, that a patient having stricture of the urethra is before the surgeon for operation, the mode of proceeding is as follows:—

First, introduce the catheter, as gently and with as much care as possible, completely through the contracted part of the urethra into the bladder. Having done this, withdraw the stylet, and the surgeon having satisfied himself, by the escape of urine, that the instrument is in the bladder, insert the smaller extremity of the steel rod into the catheter, and having secured it, by making two or three turns of the rod, remove the thumb-slide, and then pass No. 3 silver tube upon the index-rod right through the stricture or strictures. In performing this operation, the passage of the instrument will be much facilitated by giving to the flanges a rotatory motion as they are held between the fingers and thumb.' This tube being withdrawn, the others may all be passed in a similar manner, and in regular succession. The number to be introduced must of course be determined by the operator. After the last metallic tube is withdrawn, an important object is still to be secured—that of *keeping the command of a free urethra*. How is that to be done? This certainly is a point of considerable importance. Mr. Wakley stated that he was happy to say that it might be accomplished with the greatest ease, by passing one of the *elastic tubes* over the index-rod, as was done in the case of the silver tubes. One of the flexible tubes being now in the bladder, *the index-rod is to be withdrawn through it*; this may be done with the most perfect ease and facility. The *flexible tube* may be left in the bladder, to serve the purpose of a catheter, and also to afford a safe channel or guide for the re-introduction of the silver catheter or index-rod.

The Society would not fail to perceive that the action of these instruments was safe and simple, and he had the pleasure of stating that the use of them had given him very great satisfaction. The application of the knife for the relief of stricture had been much condemned, although it had been strongly advocated by Mr. Syme, who was undoubtedly a high authority. Still he (Mr. Wakley) could not refrain from expressing a belief that there were strictures which might be removed by the instruments now before him, although Mr. Syme might consider that in such cases the perinæal section would be absolutely necessary to effect a cure. Time and experience in the trial of both plans would be required to enable a decision to be formed as to their merits. Mr. Syme had remarked, in a letter published that day, that he had endeavoured to establish two positions: "First: that the division of a stricture by external incision, upon a grooved director, passed fairly through the contracted part, is an operation free from all ordinary sources of danger. Secondly: that, by this procedure, strictures which resist every other mode of treatment, and are apt to resent seriously even the gentlest use of simple bougies, may be speedily removed, so as to allow instruments, of the largest size to be introduced without difficulty or inconvenience." The first proposition demanded particular attention, because he thought that the plan of treatment now proposed, by tubular expansion, would, in many cases of stricture contemplated by Mr. Syme, render the perinæal section unnecessary. If the grooved director mentioned by Mr. Syme could be "passed fairly through the contracted part," of course the small-sized catheter or index-rod now shown could also be guided through the stricture into the bladder. Necessarily, if the one instrument could be passed, so could the other; and the passage being thus secured, the tubes, both metallic and flexible, might be made to take the same course, without the slightest danger of making a false passage. In some very obstinate and inveterate strictures he had succeeded in affording relief, almost without difficulty. Some of the strictures appeared to be of the worst possible form. He was glad to perceive some gentlemen in the room who had been present when the instruments were used at the hospital. Amongst them he observed his colleague Mr. Gay, who could acquaint the Society with the result of the treatment as pursued in the case of one of his patients. In that instance the man had been treated in the ordinary way, but without success. It was suggested that it was a case which would effectually test the efficiency of the new treatment. The rod and tubes were introduced in the presence of Mr. Guthrie and several other gentlemen. After Mr. Gay had very cleverly, but not without some difficulty, introduced a No. 2 catheter, the metallic tubes from No. 3 to No. 9 were passed without a check. No. 8 elastic tube was then passed on the directing catheter, and the latter instrument withdrawn, leaving the elastic tube in the bladder. He might appeal to Mr. Gay as to the accuracy of the statement. Mr. Wakley believed that in the hands of others the effects produced by the instruments would prove as satisfactory as they had been to himself. At the hospital with which he was connected, the opportunities for proving their utility were very frequent, and it would afford him pleasure to show any practitioner who might honour that institution with a visit, the manner in which they were employed. The instruments had been seen by Sir B. Brodie, Mr. Guthrie, Mr. Stanley, Mr. Fergusson, and other distinguished surgeons, who all approved of the principles of treatment which their use involved. In placing the instruments before the Society and the profession, he felt confident that they would receive a fair and candid trial. On a future occasion he should take an opportunity of offering to the notice of the Society the further results of the treatment.

Mr. Wade read a paper entitled,

PRACTICAL OBSERVATIONS ON THE TREATMENT OF PERMANENT STRICTURE OF THE URETHRA.

The author commenced by an allusion to the great extent of the subject of his paper, and the difficulty he felt, from being obliged to read his paper in abstract, to convey to the Society all that he could desire respecting the subject of stricture. Any omission on the subject, he trusted would be regarded as incidental to his position; but as he had already placed his views on stricture in general before the profession, in his work on Stricture, he felt less hesitation in confining himself, on the present occasion, to some of the more salient points which were agitating the profession. Stricture of a permanent character was strictly a surgical disease; for although medicine might do much to mitigate the sufferings of the patient, the disease was curable only by the manipulations of the surgeon. After speaking of the three means usually adopted for the cure of stricture, namely, dilatation, the use of caustics, and the division of the strictured part by means of cutting instruments, he proceeded to discuss these different modes of proceeding in detail. With respect to dilatation, the most natural and undoubtedly the best method of proceeding, where it could be effected, he observed that it was not every case that was amenable to this proceeding, and he should presently direct attention to those cases in which other means were imperatively called for. The author then remarked, that to be successful in the treatment of any disease, the means employed should be adequate to the attainment of the end in view. In his own practice he had, in a great number of cases, had recourse to the use of the potassa fusa; and to endeavour to place this valuable agent in its true and legitimate position as a curative agent was one of the main objects of his appearance upon the present occasion. After paying a well-merited compliment to the late Mr. Whately, as the first surgeon who used caustic potash in stricture, he proceeded at once to show in what respects his plan differed from that of Mr. Whately; he proceeded to detail his plan, and observed, that the distance of the stricture from the external orifice of the urethra should be marked on the bougie, and a small piece of potassa fusa inserted into a hole made with the point of the instrument. He usually commenced with a piece of caustic, of the size of a common pin's head, and gradually increased the quantity if required. In old, hard, gristly strictures, the author found it necessary sometimes to use from half to three-quarters of a grain. The points of the caustic should be well covered with lard, and the instrument well oiled, before using it; the armed bougie should be gently pressed against the stricture for a minute or two, if impermeable, and then withdrawn. When there is a false passage, and the obstruction is beyond the straight part of the urethra, the author used a curved canula for the application of caustic. When the caustic is applied to permeable obstructions, the bougie should be gently passed three or four times over the whole surface of the stricture. From its being miscible with oily substances, the potassa fusa might either be used as a mild stimulant, or as a powerful caustic. Potassa fusa, when efficiently used for the destruction of a stricture, appeared to exert its salutary effects by a process of inflammatory softening, and dissolution of the thickened tissue forming the obstruction. A sufficiently free application, to be efficient in old hard strictures, is usually followed by more or less of a slimy muco-purulent discharge, at first with an admixture of blood, but soon becoming of a dirty-white colour. The author did not, like Mr. Whately, use the potassa fusa in all cases indiscriminately, but only in such as did not yield to simple dilatation. He found that the caustic not only required to be used more freely than practised by Mr. Whately, but that it might be advantageously applied at shorter intervals than recommended by that gentleman. He believed that when used in the minute quantities employed by Mr. Whately, that the action of the caustic was simply that of allaying irritation, as when mixed with lard and oil, combined with the mucus of the urethra, it could scarcely have any effect beyond a mild solution of caustic, which probably caused a more healthy action of the lining membrane of the stricture. The cases in which the author had employed the potassa fusa advantageously were,—1st. Strictures of a cartilaginous hardness, and impervious to instruments. 2nd. Strictures of long standing, which, although admitting the passage of a small instrument, bleed more or less freely on its introduction. 3rd. Irritable strictures. It will be seen by these observations, that the author regards the minute quantities recommended by Mr. Whately as totally inefficient in many of the more aggravated forms of stricture.

The author then briefly detailed the particulars of some exceedingly interesting cases in which he had employed the agent in question. These cases embraced illustrations of severe, irritable, and old, hard, gristly strictures which had resisted every means which had been previously resorted to by other surgeons. The good effects of the potassa fusa were strikingly illustrated in these cases. The author stated that the method of treating strictures by potassa fusa was brought forward by him in a paper read at the Westminster Medical Society on the 15th of February, 1840, having then for several years successfully employed that remedy in the treatment of stricture. His object in that paper was principally to show the great value of potassa fusa in impermeable strictures, and at the same time to define, with some degree of precision, the nature of the cases in which it would prove useful. He could truly say that subsequent and far more extensive experience had increased his very high estimation of the admirable effects of the caustic alkali in the relief or cure of urethral obstructions. No other remedy he had ever employed had afforded him so much satisfaction, and it had often surpassed his expectations in the speedy relief it had afforded in cases of the very worst description. The author gave a short history of the introduction and progress of the use of escharotics in urethral obstructions, in which he more particularly alluded to the experience of Hunter and of Home, and pointedly remarked, that however rash the practice of Sir Everard Home might appear to be, his work on the subject of stricture had at least the rare merit of showing the injurious as well as beneficial effects of the nitrate of silver. The author alluded to some observations on the use of caustic, by Professor Syme, in the *Monthly Journal of Medical Science*, July, 1850, in which he was sorry to say that the laws of common courtesy and liberality that should characterize all scientific discussions were so completely forgotten, that it might be imagined some enemy of Mr. Syme had written them, and appended a name so distinguished in the annals of surgery. In those observations even the dead had been summoned from their graves to aid the author in his extremity; for we had there been favoured with the perusal of some letters addressed to the grandfather of the present Mr. B. Bell. It might reasonably be supposed that these letters, eight in number, thus disturbed from their time-honoured slumbers, contained ample evidence of the inutility of caustic in stricture from men who had impartially tested its curative powers in that disease. It turned out, however, that these letters were written by Sir E. Home's contemporaries and rivals in practice, who were opposed to his views, and consequently used every possible objection against it. These antique documents had been lately hunted up by the present Mr. B. Bell from some quiet repository, where they had innocently reposed for nearly half a century, and presented to his friend Mr. Syme. The author then observed that it would have been but even-handed justice in Mr. Syme if he had at the same time also published a letter of Sir E. Home's to the late Mr. B. Bell, which appears in Sir Everard's second volume on Strictures. This letter was written in reply to one from the late Mr. B. Bell, containing an account of the case of a gentleman suffering from bad stricture, in whose case Mr. Bell had used the caustic unsuccessfully, and the patient then placed himself under the care of Sir E. Home. The letter was as follows:—

"Sackville-street, Sept. 19, 1792.

"Dear Sir,—The condemnation of my mode of treating strictures flattered me exceedingly, as it is evidence on record of my having acquired a more extensive knowledge of the disease than had been attained by the surgeons in Edinburgh. After such a decision, success was hardly to be expected from the use of caustic in your hands. It will, however, gratify a man of your humanity to learn, that five applications of the armed bougie, without the aid of medicines, have enabled the patient to pass a full-sized bougie into his own bladder; and as all his other complaints have left him, you will agree in believing that they must have been symptomatic of the stricture in the urethra.

"I am, &c., E. Home."

The author then alluded to Mr. Stafford's plan of division of strictures by the lancetted catheter, which, although it had been frequently successful in the hands of that gentleman, must be considered as somewhat hazardous; for where there was much condensation of tissue at the seat of disease, the most expert anatomist could scarcely be certain of cutting in the right direction. It might be added that when Mr. Stafford's operation had proved so far successful that the bladder had been fairly reached, it had often been found impossible to preserve the advantage thus acquired, the obstruction having returned as bad as ever. The author observed that although in strictures at the curved portion of the urethra he should not venture to adopt Mr. Stafford's plan, yet, when in the straight part of the canal, in case of failure with potassa fusa, he should not hesitate to use the lancetted catheter, as the finger could then ascertain, with tolerable precision, that the instrument was properly directed. The author then alluded to perinæal section, which he thought had been lately too much the fashion, but which he had ever considered an operation too perilous and unsatisfactory in its results to justify its performance, except as a last resource, and gave a condensed statement of the statistics regarding the operation, as usually performed, and sufficiently proved that it must not only be considered dangerous, but extremely unsatisfactory, in its results. With regard to Professor Syme's new operation for permeable strictures, the author, without entering into the question of the necessity for its performance, observed that it was not always a safe one, as had been so confidently asserted by that gentleman, who flattered himself that he had discovered "a simple, safe, and easy mode of cure for the worst cases of stricture." To prove that it had not always been a safe operation, the author mentioned two published cases, which had been attended by fatal results. At one of these cases he had been present, and although no operation could have been more skilfully performed, a No. 6 grooved staff having been previously passed into the bladder, the patient undoubtedly died from its effects within a fortnight from its performance. The author then alluded to the following conclusions from Mr. Syme's work on Stricture: "1. That division of a stricture by external incision is sufficient for the complete remedy of the disease in its worst form. 2. That in cases of less obstinacy, but still requiring the frequent use of the bougie, division is preferable to dilatation, as affording relief more speedily, permanently, and safely." (p. 58) The author observed, that in some previous remarks upon this mode of treatment he had ventured to question the soundness of these conclusions, having expressed his doubts as to the new operation affording a permanent cure of stricture, for the following reasons:—1. That the thickened tissue is not removed by the knife in Mr. Syme's method, any more than in the one which had been commonly adopted in impermeable strictures. 2. That although a grooved director, in the new method, is passed into the bladder as a guide to the knife, yet the natural urethral membrane can form but a very small part of the enlarged passage, the greater part of this new channel being necessarily made through the condensed tissue at the seat of disease. The author then quoted the following passage from Mr. Syme's work: "It is now universally admitted that the bougie acts by exciting a degree of absorption of the thickened texture, which occasions the contraction and induration concerned in the formation of stricture. To produce this, the instrument should be employed with the utmost possible gentleness, and should not be allowed to remain in the urethra more than one or two seconds." The author, after observing that there was scarcely another surgeon at all experienced in the treatment of stricture who would not protest against such a frivolous use of the bougie, quoted the following passage from Mr. Hunter's work: "The cure by dilatation is, I imagine, principally mechanical when performed by bougies, the powers of which are in general those of a wedge. However, the ultimate effect of them is not always so simple as that of a wedge upon inanimate matter, for pressure produces action of the animal powers, either to adapt the parts to their new position, or to recede by ulceration, which last is not so readily effected." The author went on to observe, that if a bougie was permitted to remain in the hard contractile strictures described by Mr. Syme but for one or two seconds, then, indeed, the knife must do the work which the bougie was not permitted to accomplish. However skilfully the division of a stricture may have been effected, who could ensure his patient from the occurrence of erysipelas or phlebitis? What degree of human care or foresight could so brace up the chords of life to the enduring point, as always to guard against a fatal prostration? It might so happen that a patient would have to submit to perinæal section whose vital powers had been so worn down by previous suffering that the loss of a few ounces of blood might be sufficient to turn the scale against him. With the late calamitous terminations of this operation, like beacon-lights to warn us of its dangers, he could not but think that we are conscientiously bound by every means in our power to relieve a stricture-patient before having recourse to the knife. There were some remarks of the late Mr. Aston Key, with regard to operations, which we should all of us do well to bear in mind. They occurred in *Guy's Hospital Reports*. When alluding to division of the prepuce in phimosis, Mr. Key observes: "As the knife is at all times but an indifferent substitute for skill, and should ever be avoided, if possible, the circumstances rendering it unnecessary are not beneath consideration." Taking these words for his text, the author then described the circumstances under which the surgeon may be justified in submitting a patient to perinæal section, as there were undoubtedly cases—fortunately of rare occurrence—in which that operation would afford the only chance of relief; and there were others, equally rare, where it might probably be the most judicious proceeding. In some strictures from mechanical injury, where there had been more or less sloughing of the injured parts, and a hard, gristly cicatrix had been left, the greater part of the urine being probably passed through fistulous orifices in the perinæum, perinæal section might be the only chance of relieving the patient. Where the urethra had been divided by a wound in the perinæum, a hard cicatrix might be formed at the seat of injury, and the contraction could not be kept sufficiently open by other means, to ensure the patient from danger, division by the knife might become advisable, although that proceeding would not always be successful. A case of hard contractile stricture, not the result of mechanical injury, might occasionally occur, which had long remained impermeable to all milder means of treatment, and when the patient's general powers were suffering severely, perinæal section would probably be advisable. The author believed, however, that such cases would be of rare occurrence; and in proof of what might be accomplished by dilatation, when properly and perseveringly employed, he alluded to a striking instance mentioned by Sir B. Brodie in his valuable lectures on the Urinary Organs. In that case the stricture was of the worst kind; and although no instrument had been made to enter the bladder many years before the patient's application to Sir Benjamin, the latter, by occasional firm pressure made by the solid silver sound against the obstruction, continued from five to fifteen minutes at a time, at length succeeded in passing an instrument through the stricture, but not until he had persevered in the treatment for more than a year. The author observed that there were few cases of retention of urine, supposing an operation to be necessary, which would rarely be required, in which he should not prefer puncturing the bladder to perinæal section, the former operation being, in his opinion, far less hazardous than the latter. He referred to several cases of retention from stricture recorded by Sir E. Home, in which that surgeon punctured the bladder by the rectum, and afterwards readily dilated the obstructions which had been previously impermeable. He also mentioned a similar case in his own practice, where the stricture, although for many years impermeable, became so dilated after the bladder had been punctured, that in a month's time a No. 6 bougie was easily passed. The author observes that from Mr. Syme's position as a teacher, that gentleman's strong recommendation of perinæal section in strictures which do not readily yield to dilatation, appeared to him as being so likely to lead to fatal results in the hands of others, that he considered it a duty to comment freely upon the professor's views regarding urethral obstructions. With regard to Mr. Syme's somewhat startling assertion, that there was really no impermeable stricture except from the awkardness of the surgeon, the author had only to observe, that cases of stricture occasionally occurred in this metropolis, in which surgeons of the highest rank not unfrequently failed in passing an instrument into the bladder. He could readily conceive it possible for Mr. Syme, with a very small grooved director or sound, gradually to find his way to the bladder; but it appeared to the author that such an instrument would be more likely to pass by the side of the obstruction, where there is least resistance, than through it. The author concluded his subject as follows:—Although in these observations he had dwelt more particularly upon the use of caustic than on other means, well knowing that much unjust prejudice prevails against that remedy, it had been especially his object to avoid advocating any one method of treatment exclusively. It cannot be expected that the surgeon who adopts a particular mode of treatment in all forms of urethral obstruction will meet with the same degree of success as one who, having a variety of resources at command, is enabled to select such as may be most suitable to each individual case. Dilatation will probably effect a permanent cure of stricture in its early stage before the occurrence of much induration. That method, when properly conducted, will also prove successful in the relief or cure of a great majority of stricture, notwithstanding the existence of much gristly hardness at the seat of disease. In such cases, however, there will be more or less tendency to re-contraction, for although the bougie may dilate the constricted channel to its healthy calibre, as indurated tissue is not easily removed by the absorbents, the obstruction will commonly return, unless prevented by an occasional introduction of instruments, the use of which may sometimes be necessary during the patient's lifetime. Caustic, when judiciously used, will often prove highly serviceable in facilitating dilatation; and in many cases, he knew that the application of potassa fusa would be successful in the entire removal of the disease. It is, however, in the treatment of obstructions impermeable by instruments that, in his opinion, consists the indisputable value of the caustic alkali, as it had enabled him to succeed in the relief or cure of many cases, in which dilatation had failed after long trial, in very skilful hands, and when the only hope held out to the patients was perinæal section—an operation which, he repeated, should never be performed whilst there remained a single chance of a successful result from less hazardous measures. He begged that these observations on perinæal section might not be misunderstood; for although he had used his best endeavours to dissuade surgeons from having recourse to its performance, except in the very few cases that cannot otherwise be more safely relieved, it had been far from his intention to say anything in disparagement of operative surgery, which, when ably and judiciously employed, amply merits, and will ever obtain, the admiration of all who can appreciate the untiring industry and high mental qualifications necessary to form the accomplished operator. By gentleness and perseverance, however, in the means which he had ventured to recommend, in bad cases of stricture, the surgeon may rest assured he will generally be successful, without resorting to the knife. It is true, that in the unostentatious exercise of his art he cannot hope to obtain that applause which the dexterous performance of an operation is sure to excite; yet his reward will be no less enviable, and far more lasting—an approving conscience.

Mr. **Borlase Childs** remarked that Mr. Wade had so completely exhausted the subject, that he had little to say. He had never employed, in his own practice, the treatment by potassa fusa, as recommended by Mr. Wade, for he had invariably found the nitrate of silver quite adequate to accomplish the purposes required. He considered Mr. Wade's observations respecting false passages were most pertinent, and demanded the serious attention of the surgeon, in order to guard against the injury which would result from the armed bougie inadvertently passing into them; but in using the caustic there were other evils besides this one to be avoided, for he recollected a case of enlarged prostate coming under his notice, which, having been mistaken for impermeable stricture, was most liberally treated with the armed bougie, with what result he would leave the Society to imagine. Of all the means devised for the treatment of stricture, none in his opinion could equal the one of simple dilatation by bougies; and, as he had stated on a former occasion, he felt assured, that when a passage was once obtained, patience and perseverance, unaccompanied by violence, would ultimately accomplish all that could be desired. With regard to the treatment by perinæal section, he had never adopted it; the results of the cases he had read of and seen were so unsatisfactory, that under no circumstance but a very desperate one could he be induced to resort to it; and even then he should much prefer the operation recommended by Sir B. Brodie, that of laying open the membranous portion of the urethra as far forward as the stricture, and subsequently dividing it with a lancetted stylet, in the manner described by him in his valuable work on the Urinary Organs.

Mr. **Hancock** considered that the author had not sufficiently entered on the constitutional treatment of stricture, and he related some cases of spasmodic stricture, in which mischief had been done by the attempts which had been made to pass instruments. The complaint immediately gave way under the use of constitutional remedies. He also alluded to some cases of stricture, in which small catheters produced much hæmorrhage; larger instruments in these cases easily entered the bladder, and no hæmorrhage occurred. With respect to potassa fusa, he might say, he was well pleased with his own experience of its effects; and as he had formerly entertained a strong prejudice against its use, perhaps his testimony on that account would be thought the more valuable. He had thought it so deliquescent, that it would run into the neighbouring tissue, and produce ulceration. Within these few months a case had been sent to him from Haslar Hospital, to perform Mr. Syme's operation upon. The patient had been under treatment for several months, and it was said the passage of an instrument produced so much suffering that he could not bear any further attempts at dilatation. He (Mr. Hancock) found that he could introduce a No. 2, and therefore did not feel justified in cutting into the perinæum. He therefore passed a No. 7 bougie, armed with a small piece of the potassa fusa, which readily entered the bladder. The next time, he attempted to pass an unarmed one without success; but on again resorting to the caustic, the instrument readily passed. It passed also readily whilst the patient was under chloroform. The potassa had evidently removed the irritation which had existed; and at the end of a month he could readily introduce a No. 13. He then made some observations on the necessity of never leaving off dilatation until No. 14, if it could be introduced, had been employed.

Mr. **Smith** had used the potassa fusa in many cases with complete success. He complimented the author on his paper, and inquired if the use of the caustic had been followed in his hands with retention of urine, which had been made an objection against its employment. He had found the opposite in his own practice. He then related a case in which he had the misfortune to have withdrawn the bougie, leaving the caustic in the urethra; the man complained of great pain. The speaker soon found out what had occurred, and passed a bougie down and pushed the caustic into the bladder. No evil results followed.

Mr. Gay said he felt assured that much good would result from the interesting communication made to the Society that evening; for it would, with the confirmatory experience of the gentlemen who had spoken upon it, tend in a great degree to remove the prejudice and alarm which existed, and in which he felt a share, against the severe application of caustics of any kind to the mucous membrane of the urethra. Every surgeon must have felt, in the course of his experience of the treatment of strictures, some disappointment at the use of the bougie; indeed, he (Mr. Gay) did not think that instrument so perfect or so uniformly successful in its effects as some surgeons were disposed to admit; and therefore he hailed, not the addition, but the admission to a wider share in stricture practice than had hitherto been acceded to it, of another remedy, the potassa fusa. It was but too often the case, that after treating a case of stricture with the bougie, apparently with the most decided success for some days or weeks, the surgeon was foiled and disappointed in finding, that whereas at the last time of passing the instrument he could easily employ perhaps a No. 6 or 8, he could now only use a No. 2 or 4; and this was especially true in the treatment of *hæmorrhagic* strictures. Now, it was in such cases that other remedies were sometimes most serviceable; and, without naming the caustic potash as especially applicable to such a class of cases, he would hail it at all events as another resource, and, according to testimony which could not be impugned, a safe and effective one too. He (Mr. Gay) thought, probably, that not quite stress enough had been laid upon the after-treatment when this caustic was employed. It must assuredly create a sore or ulcer by destroying the abnormal tissue and mucous lining in the seat of the constriction. Under these circumstances, he conceived that great care should be taken lest the sore be allowed to heal so as to produce another constriction in every respect as bad as the first. To prevent this, bougies should, he supposed, be used constantly, and for a long time after the use of the potash; and the surgeon should not be contented until a large bougie could be made to enter without difficulty of any kind. The author of the paper had included him (Mr. Gay) amongst the "perinæal sectionists;"—("No," from Mr. Wade, who here referred to his paper.) He (Mr. Gay) was glad of the correction, for he had never performed the operation of Mr. Syme, nor did he think it likely he should ever do so. Mr. Wade had done him the honour to refer to a plan of treatment which he had advocated in certain cases of impermeable stricture—viz., puncturing the bladder from the rectum. Surgeons were often called to see patients, in consultation, with their bladders enormously distended by stricture, rendered impermeable by some cause of an accidental or temporary nature,—it might be inflammation, or spasm from debauch. In these cases many attempts had been made to traverse the course of the urethra by a bougie or catheter, but in vain; and in some instances much and irreparable harm had been done by such efforts to the walls of the urinary canal. He (Mr Gay) thought that the state of the patient and of the bladder, and of parts contiguous and acting upon it, in a most unfavourable condition for the successful employment of these instruments, and, instead of them, he advocated a practice, which he had successfully employed, *of a soothing character*. He was for *letting the parts alone*, and relieving the bladder of its strain by puncturing it. This operation was not, he could affirm from experience, attended with the slightest danger or inconvenience, if performed with care; and by the time the bladder had refilled, after it had thus been emptied, the parts regained their natural relations and condition, the temporary cause of obstruction had been removed by the use of suitable remedies, and the patient, after generally enjoying refreshing sleep, awoke with the power of passing his urine as he did before his illness. He (Mr. Gay) could not allow the opportunity to pass without referring to the instruments for stricture which had been exhibited that evening by Mr. Wakley; that gentleman had obligingly shown them to him at the Royal Free Hospital, and just as he (Mr. Gay) was about to treat a case of stricture which had given him much trouble. After examining them, he (Mr. Gay) passed the directing catheter into the bladder in the case referred to, the stricture being at this time so close as not to admit an instrument of larger size than No. 4, although a few days before, No. 6 had been passed with comparative ease. No. 4 canula was then passed over the catheter, through tho stricture, breaking up, he had no doubt, the tissues forming it, but with very little pain to the patient—at all events, not more, if so much, as attends the ordinary passing of a bougie. No. 6 was then passed, and subsequently Nos. 7 and 9; these were withdrawn, and an elastic-gum canula, No. 6, was then passed over the catheter into the bladder, the catheter withdrawn, and the patient removed to bed with the gum catheter in his bladder. The bleeding was very trifling; and the patient is now going on most favourably towards what he (Mr. Gay) would call a *rapid* cure. He (Mr. Gay) thought the invention highly creditable to Mr. Wakley's ingenuity, and he should not be doing the duty which he owed to himself and his professional brethren if he did not cordially recommend it to their notice and adoption.

Mr. Wade in reply, stated that he had not referred to spasmodic stricture, as his paper was on the treatment of permanent obstructions. In his book on Stricture he had gone into the entire subject, and had insisted strongly on the necessity of constitutional treatment, and on the frequent testing of the urine. He might observe, however, in cases of spasmodic stricture, where there was difficulty in passing an instrument, a piece of caustic, as big as a pin's head, placed on the bougie, and applied to the stricture, would often materially assist the constitutional remedies employed. He agreed in the necessity of carrying dilatation to its full extent, but he had not found it necessary, in some cases where the potassa fusa had been used, to continue the introduction of instruments for more than three or four months, the stricture having been completely removed by the caustic. When properly used, the potassa fusa did not produce retention of urine, but often had a contrary effect. No such accident as that mentioned by Mr. Smith had ever occurred in his practice. In answer to Mr. Gay as to the mode of action of the caustic, he referred that gentleman to his paper.

Saturday, Feb. 1.

CALCULUS IN THE URETHRA.

Mr. Smith exhibited a calculus, weighing five drachms and a half, which had been removed from the urethra of a man. It appeared that the patient had suffered for a long time from the complaint, the calculus having for a considerable period been impacted in the urethra, just behind the glans penis. It had formed a fistulous opening, through which the urine passed, the urethra anterior to the stone being closed up. The stone was liberated by an incision made into the urethra by a common scalpel. The fistulous opening remained patent, no steps having been taken to close it, in consequence of the man's objection to submit to any means to accomplish that end. The man was married, and had two children. The stone had probably formed in the bladder. been arrested in its attempt at expulsion, and had gradually increased in size from deposits from the urine

Mr. Chippendale suggested that the opening might be closed by caustic applications.

Mr. Smith said that the opening was too large to be influenced by caustic.

NECROSIS OF THE FEMUR.

Mr. Dampier exhibited the sequestrum of nearly the entire tibia, taken from a child, five years of age. The little patient had injured the bone on two occasions from severe falls. The whole shaft of the bone perished. Amputation had been recommended; Mr. Dampier, however, suggested that the sequestrum should be removed. There were two large openings near the head of the bone. A semilunar incision was made in the neighbourhood, and the sequestrum was removed whole, the child recovering quickly.

Mr. Smith thought the form of incision was an improvement on the old method.

Mr. Hird said that the form of incision would differ with the necessities of the case. He saw nothing novel in Mr. Dampier's proceeding.

Mr. Greenhalgh read a paper on

THE USE OF THE SPECULUM.

He stated that he had examined many women with that instrument, in about a fifth of whom he discovered red and apparently granulating surfaces, varying in size from a small pea to a half-crown piece; in a few, bleeding when touched with the forceps. He then mentioned two cases, in each of which the cervix uteri was enlarged, puffy, and somewhat tender to the touch, in part covered with a large red, and apparently granulating surface; the os uteri admitted the top of the finger; to both the potassa fusa was applied, which was followed by peritonitis; they, however, recovered under the ordinary plan of treatment. Mr. Greenhalgh then appended a case in which the potassa fusa had been applied on four different occasions; considerable destruction of the cervix uteri, with immobility of the uterus, and almost entire occlusion of the os uteri, were afterwards found to exist. He mentioned that this was one among many other cases which had come to his knowledge, in which potassa fusa had been prejudicial. After reading some quotations from Dr. R. Lee's writings, to prove that the speculum was of no use in malignant and some non-malignant diseases, Mr. Greenhalgh stated that the hysterical diathesis was markedly apparent in most of the cases which came under his care with uterine symptoms. He then proceeded to detail the fallacious symptoms most commonly accompanying this peculiar uterine condition, general disorder of the health, lumbo-sacral and ovarian pains radiating around the lower part of the abdomen, with frequently more or less disturbance of the menstrual secretion; not unfrequently a spot exquisitely tender to the touch was found to exist behind or about the trochanter major; in some cases, the pains extended down the thighs; leucorrhœa, although a very common, was by no means a constant symptom; sexual congress was sometimes attended with inconvenience, occasionally with pain, and in some few cases blood was lost either at the time or after this act; troublesome pruritus was in a few cases complained of. He then observed, that the various inclinations and mobility of the uterus were strikingly apparent in many cases he had examined. He took a hasty glance at the varieties presented in volume and texture by the body, cervix, and the os uteri as modified by individual peculiarity, the number of children borne, the more or less proximity to labour; by miscarriage, menstruation, &c.; he added, that he had never yet succeeded in seeing into the uterine cervical cavity during life. The causes of these conditions of the uterus and cervix he considered to be, local injury to the part, modified and influenced by, in many cases, the general state of health. Mr. Greenhalgh expressed an opinion, that weighing and measuring uteri in the dead house would be of little use in relation to reputed congestions, indurations, and hypertrophy, unless connected with the symptoms during life. In the treatment of the aforesaid symptoms, he laid great stress on the administration of steel with ammonia, the mineral acids with tonics, baths, the hip and shower, hot or cold, combined in some cases with sedative or astringent vaginal injections, and occasionally leeches to the ovarian regions. He thought that cures were attributed to the cauterizations, whereas they were due to the general treatment. He had found no advantage in the application of solid nitrate of silver to the granular-looking cervix, over a solution of the same substance. After briefly alluding to the method of using vaginal injections, and to the lengthened period required for cure by caustics, he concluded by stating, that he hoped he had succeeded in proving that cauterization of the cervix uteri is not unattended with danger, and that, so far from its being useful, it had, so far as his experience had gone, been positively prejudicial; that in many diseases of the uterus, non-malignant and malignant, the speculum is not only not necessary, but positively injurious; that these symptoms occur for the most part in females of a highly nervous and excitable temperament, and that, for their cure, exciting modes of treatment must be avoided; that the causes are more or less under control; that these conditions of the cervix uteri do not run into malignant forms; that the diagnosis is, as a general rule, very easy; that these conditions, so far, at least, as he could learn, do not shorten life; that there was no evidence to show that these cauterizations ever do, single-handed, (if the term might be permitted,) effect cures. And lastly, Mr. Greenhalgh stated, that he had been informed by many intelligent and trustworthy general practitioners, that, although constantly treating cases with the aforesaid symptoms, yet they seldom, and in many instances never, used the speculum. He added, that he did not mean to affirm that the speculum was never necessary; but if so, it was in a very limited number of cases.

In answer to a question, Mr. Greenhalgh said that he had used the caustic in the manner recommended by Dr. Simpson, and with the acetic acid.

Dr. Crisp was old enough to recollect the opposition which had followed the introduction of the stethoscope into practice, and amongst other reasons advanced against its use, was the charge that it was indelicate. The fact of the speculum being used sometimes without a necessity offered no grave reason why it should not be used with advantage in proper cases.

Dr. Henry Bennett, after referring to the difficulty of discussing the paper, in consequence of the loose way in which the subject was treated, declared his conviction that Mr. Greenhalgh had not been justified in using the speculum in the indiscriminate manner in which he had employed it. The speculum should never be used except there were complete grounds for its employment. At the Western Dispensary, with which he was connected, the cases in which the symptoms presented justified the use of the speculum were only 300, amounting to about 120 of the 4000 or 5000 patients who presented themselves annually to that institution for treatment. He was surprised at the statement, that one in five of Mr. Greenhalgh's patients had a granular condition of the uterus; but really his statements were so loose, that he appeared to have run riot among his patients. (Laughter.) It was clear, from such statements as had been presented to the Society that night, that those who objected to the surgeon and physician using the speculum, had occasionally the least regard for their own rule of conduct

He then said, that his own experience as to the results of examination was opposed to that of Mr. Greenhalgh, and considered, from the dates given, that the speculum in Mr. Greenhalgh's cases had been used in an inefficient manner. Mr. Greenhalgh had found the diseases which presented themselves to him, slight excoriation, induration, &c., yield to injections and constitutional remedies. Generally, when he (Dr. Bennett) found, by examination, that ulceration existed, this plan of treatment had been long pursued without benefit, and the treatment surgically was the only permanent way of effectually curing them; they were only temporarily relieved by Mr. Greenhalgh's plan. It was not merely the presence of leucorrhœa which justified the use of the speculum, but other symptoms, local and general, and which he had enumerated in his work. The potassa fusa, when misapplied, would no doubt do mischief, but he should never dare to use it when acute inflammation was present, and it only cured chronic cases by substituting acute inflammation for the chronic condition.

Dr. **Beck** thanked the author for his paper, and could confirm the accuracy of all he had advanced respecting the improper use of the speculum. Now, from the published details of those who advocated the use of the speculum, let him examine into the statements of what they saw and what they found. Was their pathology correct or not? They stated, first, that the speculum had been used by the ancients, and that women in old times had been subject to ulceration of the neck of the womb. Dr. Beck entered into some minute details to show that the ancients never did use the speculum to examine the neck of the uterus, that they regarded the vagina as the womb, and the instrument they used was merely to separate the vulva in order to look into the vagina, which they called the womb. With respect to the question, whether there was, as had been stated, any "ulceration" of the uterine neck at all, he went into a lengthened account of the anatomy of the uterus, to show the improbability of such a condition, except in very rare instances. First, he showed that cellular tissue did exist in the uterus; secondly, that the mucous membrane, instead of being thick, as was supposed, was in reality very thin, the folds supposed by the advocates of ulceration consisting, in fact, of the natural tissue of the uterus. The internal orifice of the uterus was very small, and there was no muscle round it as had been stated. Dr. Beck then charged the advocates of ulceration with an absurdity in their pathological statements, in asserting that ulceration preceded inflammation. But did ulceration ever exist in these cases? It had been said to exist at all ages of female life. The asserters of this were chargeable with having used the speculum in young children. He denied, in the cases of virgins between fifteen and twenty, that ulceration did exist in association with symptoms described; there was no evidence whatever in these cases of any breach of surface, and if there was, it was not ulceration, but a breach of surface resulting from mechanical or morbid causes. In women who had borne children, he denied that the open state of the uterus, attended by a glairy discharge, were pathognomonic of ulceration: the discharge came from the glands about the neck, and the open uterus was no proof of ulceration existing. We might deduce from these facts that the speculum was often used when not required; that ulceration did not, as was supposed, generally exist in connection with a certain train of symptoms, but might be present once in five or six hundred cases. The speculum therefore was seldom required.

Dr. **Murphy** spoke of the prejudices which existed against the speculum, and the unfair manner in which the subject had been treated. It was therefore difficult to arrive at calm and deliberate facts. The statement that crowds of women rushed to a gentleman's door, begging to have the speculum used, and insinuations thrown out that it was used unnecessarily, did not help us in the inquiry. He trusted that the fellows would regard facts only. He characterized Dr. Beck's speech as full of ingenious sophistry, and denied that any such statement had been made, that ulceration preceded inflammation. All had said, as he now said, that the ulceration was the consequence of inflammation. It was said that no ulceration was present, because there was no loss of substance: he would say that the ulceration of the cervix uteri was like that of the conjunctivæ, and required the same kind of treatment. In the complaint in question, the neck of the uterus first became inflamed and reddened; as the disease progressed, the general redness became a circumscribed patch; there was no ulceration then, but some slight elevation of the margin of the red patch, only slight, because there was so little cellular tissue. In cases of prolapsus uteri we might sometimes see ulcers at the neck of the uterus with the same circumscribed surface, and without raised edges. He should not enter into a discussion whether or no these morbid states were strictly "ulcerations;" there they were, whatever we might call them. Dr. Lee and Mr. Greenhalgh admitted of the presence of a granular condition of the neck, and Mr. Greenhalgh said that inflammation of the neck went on increasing, and became a source of much mischief, incurable except by local applications. The granular condition of the uterus was no more to be treated by local means alone than the granular conjunctivæ; constitutional treatment was as important as local. He had seen no ill results from potassa fusa, as Mr. Greenhalgh had, and thought that gentleman must have applied some of it to the mucous membrane of the vagina. He believed, if used properly, and with discrimination, no such results would follow its employment. He had not found injections so successful as Mr. Greenhalgh had, and thought they did not reach the affected parts, in consequence of the neck of the womb being surrounded by the folds of the vagina. It was only reached by the speculum. As far as his experience had gone, the speculum was most important as a means of diagnosis. He admitted the instrument was greatly abused, but it was used by men of the highest integrity—not, as some had employed it, as a mere plaything. The abuse of the speculum was no argument against its proper and legitimate employment.

Dr. **King** spoke at some length against the indiscriminate use of the speculum, but praised it as a good means of diagnosis when judiciously employed.

Mr. **Thomas H. Wakley** observed, that the time had arrived for the "*reply*" of the author of the paper under discussion, but he trusted the president would grant the indulgence of an additional half-hour this evening; or was it the wish of the Society that the discussion should be adjourned until the next meeting? Surely, upon an occasion such as the present, additional time was imperatively called for. Many gentlemen in the room, he was certain, wished to record their opinions upon the matter under discussion. He (Mr. Wakley) for one wished to have an opportunity of addressing the Society, not so much in reference to the *pathological* or *therapeutical* value of the speculum, or the question of its *use* or *abuse*, as to make some remarks upon the objectionable spirit in which that paper was written.

[The **President** here took the opinion of the Society respecting the adjournment of the discussion; and it was resolved that the first half-hour of the next meeting should be devoted to that purpose.]

Mr. **Wakley**, in continuation, said, that the paper to which they had all listened that evening was proof of a most defective arrangement in the constitution of that Society; he alluded to the mode of introducing and of reading scientific papers. The council exercised no control whatever, or any supervision, in this respect; and however objectionable a paper might be, the first knowledge they derived of that fact would be at one of the regular meetings of the Society, when the author read it publicly. He (Mr. Wakley) wished strongly to enforce attention to this omission. He felt confident, had a different practice been in operation, the paper of that evening would not have been read to them in its present form. Accusations and insinuations of the gravest kind had been made against certain practitioners, and, indeed, had not been confined to them, but actually females, both rich and poor, were included in the charges of gross indelicacy, and of encouraging the imputed trifling of the physician or surgeon. Surely they ought to condemn such a practice. With respect to the use of the speculum, he (Mr. Wakley) was happy to state, that he believed no surgeon or physician would expose a female to that unpleasant examination, without conscientiously believing, from certain apparent symptoms and indications, that there were reasons to suspect that such disease of the uterus existed as to render the speculum necessary, either as confirmatory evidence, or as a means of introducing curative agents. He felt the profession degraded by the charges made in the paper. However, that evening would be celebrated in the annals of the Society by the death of the speculum uteri in the hands of Mr. Greenhalgh. They had all listened to its dirge that evening. According to his own report, the author had proved himself a very energetic practitioner with the instrument in question, having within a period of three years actually employed it in 1000 cases—a feat only surpassed by another gentleman, who boasted of 1300 cases. He (Mr. Wakley) observed, that in reference to his (Mr. Greenhalgh's) remarks on others, by his own showing his paper had been a greater rebuke to himself than to those gentlemen upon whose practice he had so severely commented.

Mr. **Greenhalgh**, before the Society adjourned, wished to say that he did not object to the occasional use of the speculum; but believed that it was very rarely required. He had had no motive in using the instrument, except to test its value, and the truth of the statements made with regard to ulceration of the uterus, and its frequency. He had not made it a matter of gain, having employed it chiefly—indeed, with only half-a-dozen exceptions—on gratuitous patients.

Saturday, Feb. 8.

The debate was resumed by Mr. J. F. **Clarke**, who made some general observations condemnatory of the abuse of the speculum.

Mr. **Hird** said that three questions presented themselves to us. What are the cases in which the speculum should be employed? What are the cases in which ulceration was said to exist? and, How are we to cure them? He would first, however, inquire why the mucous membrane of the uterus should not be liable to the diseases which affected other mucous membranes? and why should not the nitrate of silver act on disease there as it did in other parts? He should not care to discuss the point whether "ulceration" really existed in these cases or not; but certain it was, that the morbid condition which was present was benefitted by the application of nitrate of silver. He had not used caustic potash in these cases. With respect to the use of the speculum, he had not employed it in anything like a hundred cases in his life; for he did not consider it was justifiable to employ it until a digital examination had convinced the surgeon that there was local mischief requiring local treatment. He had seen cases similar to those described by Dr. Murphy, and in these the local application of the nitrate of silver would do good.

Dr. **Tilt** said that it was an established principle of practice that local disease required local and constitutional remedies, and the womb had no special pathology to exempt itself from this law. He justified the proper use of the speculum as a means of diagnosis, and regarded its employment as legitimate as the use of the ear-speculum, or the spatula to examine the fauces. The potassa cum calce was not applicable in acute cases, for if employed in them, such accidents as those mentioned by Mr. Greenhalgh might occur. But in chronic cases of enlargement and inflammation it would be employed with much advantage; and cases that would otherwise linger for a very long period, were to be cured in a few weeks. Dr. Tilt then dwelt with much eloquence on the statement made in the paper respecting the indiscriminate use of the speculum, and declared emphatically, that no man was justified in treating poor patients with less feeling and consideration than he did the wealthy and the influential.

Mr. **Greenhalgh** said that he had mentioned no names, and had only come before the Society, as an honest man, to state his experience with regard to the speculum, and the uterine pathology, which had lately been so much before the profession, under the name of "ulceration of the neck of the womb." He declared that he believed many very serious cases had occurred from the use of the potassa fusa. The potassa fusa had been used for cancer of the pylorus, and hæmorrhage from internal piles, supposed to be from the uterus. He could not learn what were the symptoms, the presence of which would justify the use of the speculum; and he should judge, from Dr. Bennet's book, that no such symptoms were known. He then referred to the use of the speculum, as mentioned by Dr. Bennet, in a Parisian hospital, to the extent of sixty cases daily. [Dr. **Bennet**—A syphilitic hospital.] He then denied the statement made in the work of Dr. Bennet, that simple leucorrhœa in married women would be found associated frequently with ulceration of the uterine neck. However, in his (Mr. Greenhalgh's) examinations, he had followed, as nearly as he could, the rule laid down by Dr. Bennet: the result he had placed before the Society; and that result showed that Dr. Bennet was wrong. Referring to the statistics of Dr. Bennet, that out of 300 cases at the Western Dispensary, 245 were cases in which the neck of the uterus was inflamed, in 225 of which it was ulcerated, he (Mr. Greenhalgh) contrasted this statement with the facts laid before the profession by Dr. Ashwell, Dr. Robert Lee, and Dr. Boyd—authorities equal at least to Dr. Bennet, and which completely destroyed the accuracy of his statements. The cases in which he had applied the potassa fusa were chronic,—indeed, of very long standing,—and he had carefully used it: he was certain he had not, as had been surmised, applied it to the mucous membrane of the vagina. He concluded by declaring his conviction, that the cases in which the speculum was required as a means of diagnosis were extremely rare, and that generally the finger would detect all that it was necessary for the examiner to know.

Dr. **Henry Bennet**, in explanation, said that the experience of Dr. R. Lee and Dr. Ashwell was contrary to his own, in the cases under discussion. He was most anxious that the question should be settled, and the truth, whatever it might be, determined. He now once more threw down the challenge which he had made previously, on several occasions, that a competent committee should be appointed, to inquire into the subject, and that the patients which were under the physician-accoucheur, at any public institution, should be examined. He would abide by the result. He had never made so absurd a statement as that inflammation succeeded ulceration, or rather, that ulceration was the primitive condition. He hardly believed that such a statement had ever been made by anybody.

Mr. Greenhalgh then read a quotation from Dr. Bennet's book, to show that he had made ulceration the primitive disease; but it appeared that Dr. Bennet had said that ulceration might precede induration, &c.; inflammation was not mentioned, as Dr. Beck and Mr. Greenhalgh had stated, as consequent upon ulceration.

Mr. Chippendale read a paper on

GONORRHŒA.

He commenced by remarking, that those who, for any lengthened period, have enjoyed the inestimable benefit of an extended field of observation, and who have duly availed themselves of so great an advantage, are aware that there are many diseases, concerning the origin and propagation of which they have occasionally a difficulty in reconciling the facts which come under their notice with the commonly received opinions. Among these diseases the author classes gonorrhœa. The results of civil practice, he observed, are not of a nature to enable one to arrive at accurate conclusions, and it is only from the military practice in small towns on the Continent, where all the inhabitants are known to each other, that satisfactory inquiries can be pursued. Such advantage the author had formerly possessed, and the conclusion he has drawn is, that gonorrhœa, for the most part, is not, as is commonly supposed, contracted by infection. In illustration of this position, he described the occurrence of gonorrhœa, after protracted intercourse, following a debauch, the victim using cold ablutions to the part to prevent infection. This he regards as a case of mucous membrane highly excited, and suddenly submitted to a depressing agent, which would naturally induce inflammation and a muco-purulent secretion, with all the attendant symptoms of gonorrhœa. As a counterpart to this, Mr. Chippendale next described the occurrence of a cold in the head, caught by exposure to a draught of cold air while heated. He says,—We have here two cases so far parallel as the dissimilarity of the organs affected will admit, in which we have a like disturbance set up by causes which are similar, though not identical. The author then sought to prove the spontaneous origin of gonorrhœa, by stating, that in numerous cases of that disease among the French soldiery, the women with whom they had connexion were found, on examination, to be free from disease. Two cases were also given of married men, who, after drinking too much wine, and having protracted intercourse with their wives, had gonorrhœa. One of these cases, the author said, was fraught with suspicion, for the patient had had connexion with another woman about a week previously. With the other nothing of the kind had occurred. To these Mr. Chippendale added the case of a lad, about sixteen years of age, suffering from gonorrhœa, caused by onanism; and that of a boy in whom the same disease was produced by passing the head of a pin down the urethra. Another case of gonorrhœa happened in a child five years old, but the cause could not be discovered. The author next expressed his surprise that virus could be effectually lodged in the urethra, because during connexion that canal is closed by pressure, while the lubricating secretion of its mucous membrane serves to defend it from noxious agencies, while the completion of the sexual act is of such a nature as to cleanse away all adventitious matter from the canal. Again, the author doubts the lacuna magna being the seat of the disease, and thinks it not improbable that there is frequently, although not always, an ulcer in that situation. He next proceeds to examine the alleged causes for orchitis and ophthalmia, and, discarding them, regards gonorrhœa as of a rheumatic character, and those sequences of the disease as instances of genuine metastasis, and to strengthen this opinion, cites the occasional occurrence of gonorrhœal rheumatism. With respect to treatment, copaiba and cubebs he considers to act through the blood, and must be given at the commencement of the attack, or else they are of no avail. The author has observed that the disease lasts the longest in the young, and that the period of its existence, other things being equal, diminishes as individuals advance in life.

Mr. Acton did not believe in the spontaneous origin of gonorrhœa; it might arise from excessive connexion with a woman affected with leucorrhœa. It had been inquired how pus entered the urethra? He believed that when the semen was forcibly discharged, a vacuum to some extent was made, and the pus allowed to enter. He believed that cubebs &c. acted locally, and not on the blood, and related a case in which a man, with an opening in the under part of the urethra, through which the water passed, was cured of a discharge up to that point by cubebs; but the disease continued from this point to the termination of the urethra. Antiphlogistic remedies simply, as proved by Mr. Vincent, would not effect a cure. It was necessary, on the contrary, to support the patient.

Mr. Thomas H. Wakley said, in whatever way gonorrhœa might be contracted, the object of the surgeon was to cure his patient. The statements made with respect to the mode in which gonorrhœa was contracted were not always to be relied upon. He had treated many cases which came under his care at the Royal Free Hospital with an injection of the chloride of copper, one, two, or three grains to the ounce of water, with marked success.

Mr. Hunt questioned how far the cures in cases of gonorrhœa were due to remedies. Time alone would cure.

Mr. Borlase Childs did not believe that gonorrhœa would get well of itself. He did not approve of antiphlogistic treatment.

Mr. Nunn said that inflammation was not necessarily treated by depletion; in some cases it might be necessary to keep up the strength of the patient to effect a cure.

Dr. Winslow mentioned the case of a lad who became affected with gonorrhœa from the practice of masturbation.

Mr. Chippendale, in reply, had had extensive experience on the subject of gonorrhœa. The opponents of the spontaneous origin of that disease forgot those cases in which there had been no connexion whatever When he had spoken of antiphlogistic treatment, he meant its employment locally, as leeches to the under part of the urethra, &c. He mentioned a case in which gonorrhœa was cured by the rupture of a vessel in the urethra during coition. He spoke in favor of injections, and thanked the Society for their attention to him.

PATHOLOGICAL SOCIETY OF LONDON.

Tuesday, Jan. 14, 1851.—Dr. Latham, President.

Mr. Canton exhibited three specimens of

CHRONIC RHEUMATIC ARTHRITIS OF THE KNEE-JOINT.

The first was removed from an elderly woman, who for some time had suffered from the symptoms characterizing this complaint. The outer condyle of the femur presented a series of vertically disposed ridges and furrows alternately arranged. The posterior surface of the patella showed the same peculiarity, so that when the two were in apposition, an inter-locking was the result, but at the same time ginglymoid motion was freely executed. The encrusting cartilage had disappeared from both these surfaces, and porcellaneous material occupied its place. The second specimen was from man of sixty years of age, and showed the same peculiarities, with the exception of the establishment of surfaces of eburnation to a less degree, though the cartilage had been absorbed to the like extent; the subjacent bone was in part porous, and in part porcellaneous; a loose cartilage was found in this joint, of an oval form, and situated near the intercondyloid notch. The third articulation was from a middle-aged man, who had long laboured under the symptoms of chronic rheumatic arthritis in the knee and hip of the same side. In the latter joint the disease had committed extensive ravages. In the ligamentous tissues, larger and small irregularly shaped osseous growths were to be seen; and around the tibial glenoid cavities similar deposits had considerably deepened the surface for the femoral condyles. The external semilunar cartilage was wholly removed, so that the femur and tibia were here in contact. Their opposed surfaces were much expanded, and covered by a continuous and uneven stratum of ivory-like deposit. A large number of loose and adherent bodies were in the joint, and varied in consistence from the cartilaginous to the osseous.

Mr. **Prescott Hewett** exhibited a specimen of

OMENTAL SAC IN A SCROTAL HERNIA,

and remarked, that he had great pleasure in being able to bring it before the Society, as it served to confirm the accuracy of the opinion, which he had ventured to express in a paper published some years back, in the *Medico-Chirurgical Transactions.* In speaking of the formation of complete omental sacs in hernia, he had thus described the origin of one variety of this disease. —"An epiplocele takes place, and the portion of omentum which is protruded becomes altered in structure, and its folds are firmly united to each other by the effusion of lymph; but within the abdominal cavity, in the neighbourhood of the ring, the folds into which the omentum has been drawn may not be agglutinated—they will thus leave spaces into which a knuckle of intestine may insinuate itself, pass through the ring, and form for itself a bed in the altered mass of omentum which is in the hernial sac. It may happen that two or three portions of gut may slip into the different spaces left between the folds of the omentum, and subsequently form for themselves separate pouches; several separate sacs, with narrow necks, may be thus found in the omental mass which is in the hernial sac." When that paper was written, Mr. Prescott Hewett had not yet met with any case of this peculiar form of omental sac, neither had he been able to find any published notice of it; the present specimen he found by chance, some two or three years subsequently, in the body of a person who had died of some other disease. In this specimen, the omentum in the hernial sac was of the shape and size of a common pear; it was intimately united throughout to the hernial sac; and the greater portion of it, very much thickened, formed a perfectly solid mass; but close to the external ring, and in the inguinal canal, it was only slightly thickened and drawn into folds, in the centre of which was a well-formed pouch, large enough to lodge a good-sized coil of intestine. One extremity of this pouch reached a little lower than the external ring; the other was in the belly, and about an inch higher up than the internal ring; at this entrance into the pouch, the various folds into which the omentum was drawn had become united to each other by their margins only, and thus formed a complete ring, the circumference of which was very firm in texture, and the size about that of the middle finger; above this ring the omentum was quite healthy in structure. Such a case as this might, it was very evident, become extremely perplexing to the surgeon. In this patient, a convolution of intestine dropping into the pouch thus formed in the omentum, might have become strangulated by the adventitious ring, and the surgeon cutting down upon the hernia in the scrotum would there have formed simply a solid mass of omentum; and had he not proceeded to examine the parts in the neighbourhood of the external ring, he would never have discovered the bowel in the omental sac. Even supposing that he had discovered this sac, to relieve the strangulation, he would have been obliged to have laid the whole of the inguinal canal freely open, and to have got into the abdomen to divide the neck of the sac, which was an inch higher up than the internal ring, and which might have been the sole cause of the stricture.

Dr. **Beith**, R. N., exhibited a specimen of

CHRONIC RHEUMATIC ARTHRITIS OF THE LEFT HIP,

removed from a man aged seventy-eight, who, in 1846 was run over by a cart, which caused a fracture of the right arm and a contusion of the left hip-joint; the latter soon became the seat of rheumatic pain. Permanent lameness was the result of the injury, and the patient was subsequently always obliged to walk with crutches. In August, 1849, he was again rendered very infirm and helpless, having slipped and fallen backwards. He did not, however, complain of having received any particular injury. On examination, a shortening of the left leg was perceptible, with eversion of the foot; crepitus was detected in the hip. He died of pneumonia a few days ago.—*Post-mortem examination:* The left leg was found to be about an inch shorter than its fellow; foot slightly everted, but readily restored to a proper position; rotation causes articular crepitus at the hip; trochanter major of the left side rather higher than on the right; the muscles surrounding this joint much wasted; the larger ones had undergone fatty degeneration; capsular ligament much thickened generally, but especially at the upper and outer part, where are deposited, in the substance of this tissue, thick osseous plates and nodules, having their inner surface more or less smooth. In this situation depend several vascular synovial fringes. The capsule is also much thickened under the psoas and iliacus internus muscles, presenting here likewise ossific depositions. The transverse ligament is in a natural state. Acetabulum much deepened, and its circumference generally widened. The encrusting cartilage and ligamentum teres had entirely disappeared. In place of the former is a thick deposit of porcellaneous material, which seems to be above the level of that portion of the cavity in its lower part which is still in its natural state.—Femur: Neck horizontal, and somewhat shortened; head expanded, especially at the posterior part, so as to overhang the neck by a projecting margin. Upper surface of the head extended outwards towards the trochanter major, which is below the level of the head. Encrusting cartilage absent, except at the lower part corresponding to the Haversian gland. In the remainder of its extent the head presents porcellaneous material. The hip-joint of the opposite side was perfectly healthy.

Dr. **Beith** also exhibited a specimen of

EXTENSIVE COMMINUTED FRACTURE OF THE FEMUR.

A man aged eighty, fell down stairs on the 5th of November, 1849, and fractured his femur in such a peculiar way as to separate its upper half into two longitudinal pieces; one fragment includes the lesser trochanter, in the posterior portion of the bone to its middle; the other piece comprises the head, neck, and remainder of the shaft down to the same point. The upper part of the lower fragment or half of the shaft has been drawn up by muscular action, so as to pass in a wedged manner between the two upper pieces, to a small distance; very complete ossific reparation has been accomplished. On the 15th March of the present year, he again fell, and the result was another fracture, and very obliquely directed through the lower half of the shaft. In consequence of the advanced age of the patient, his infirm condition, the great constitutional irritation induced by the extension of splints, together with the speedy production of bed-sores, it was deemed advisable to forego to a great degree the amount of restraint which the limb, under more ordinary circumstances, would have required. Death from apoplexy occurred on the 27th of May last.

A moderate amount of semi-osseous spongy material unites imperfectly the fragments of the last fracture, contrasting strongly with the firm and large quantity of callus which consolidates those produced by the first injury.

The outer condyle displays the porcellaneous deposit, with the grooves and ridges so well described by Mr. Canton as characteristic of chronic rheumatic arthritis of the knee.

Dr. HARE exhibited a

KIDNEY WEIGHING SIXTEEN POUNDS, CONSISTING OF A CONGERIES OF CYSTS.

It was removed from a man aged forty-six, whom he first saw in January last, for an attack of pleurisy. Under treatment the man recovered, and returned to his business till March 5, when Dr. Hare was again called in. The night previous to this visit he passed a considerable quantity of very bloody urine, which had apparently given him some relief from a constant pain he suffered in the left loin. On examination of the abdomen, which had lately become larger than usual, a large tumour was found extending from the cartilages of the false ribs on the left side to about half an inch below the level of the umbilicus, and forwards to within about an inch of the median line: on percussion it was dull, and there was no interval of resonance between the tumour and the cartilages of the ribs. The dullness on percussion extended upwards beyond the lower margin of the latter. The anterior border was sounded, but presented no sign of fluctuation. In April, a considerable alteration was observed in the tumour; it still felt solid, and was without fluctuation: the lower border extended an inch and a half below the level of the anterior superior spine of the ilium; its anterior border was deeply notched, and percussion was resonant at the notch, as also for some distance obliquely across the tumour. It presented very much the physical signs of a double tumour, or of two tumours: on placing one hand over the lower part of the abdomen, and pressing with the other against the left loin, although the tumour could be very slightly moved, it appeared to move as one mass; and Dr. Bright, who saw the case, spoke confidently of its "being all kidney, with intestine passing over it, and thus giving the appearance of two tumours." There was now a slight interval of resonance between the cartilages of false ribs and the tumour. The urine, which had contained blood two or three times, was now clear. On December 9th, while at dinner, the patient fell suddenly from his chair convulsed, and was insensible for more than a quarter of an hour, which event was followed by sleepiness, numbness in both hands, and frequent twitchings. On the 12th, when seen by Dr. Hare, he had a vacant expression, wandered a little, but answered when spoken to sharply; there were slight twitchings of the upper extremities; pulse 72; feet and legs rather œdematous. The tumour appeared much the same as in April, except that it extended rather beyond the median line, and that the notch at its anterior border was less marked; its anterior border seemed also to be more overlapped by the intestines, on pressing which from under the hand its edge could be distinguished. Urine pale, without sediment, specific gravity 1008, contained one-tenth albumen. On the 13th, he had two fits somewhat similar to those on the 9th, and he died on the 16th, probably from presence of urea in the blood.

Post-mortem Examination.—Left pleura not quite so transparent as natural, but free from adhesions. Heart slightly hypertrophied, but valves free from disease. The coverings of a hernia situated just above the umbilicus, were very thin; the sac empty, but close to it lay a tongue-shaped portion of the omentum, and also a knuckle of dark, purplish, and much-congested, but not mortified, intestine, which probably was a portion of bowel that had shortly before been strangulated. The left side of the abdomen was occupied by an enormous kidney, the intestines being pushed over to the right side. This kidney also extended under the intestines halfway across the right half of the abdomen; its upper surface was adherent to the diaphragm, and it had so compressed the spleen, that the latter formed, as it were, a cap to the kidney; the pancreas was carried forwards, and was adherent transversely to its anterior surface near its upper part; and the descending colon, somewhat contracted, was likewise adherent to its anterior surface, but perpendicularly, so as to divide it into two nearly equal portions. The kidney measured fifteen inches and a quarter in length, nine and a half in breadth, and about twenty-three in circumference, and weighed exactly sixteen pounds: it still retained somewhat of the kidney-shape, but its surface was uneven, from the projection of different cysts; it consisted of one enormous congeries of cysts, varying in size from a small pea to a cavity holding more than a pint of fluid. The larger cysts were at its surface, the smallest about the centre; many of the smaller ones projected more or less into the cavity of the larger; none of them contained hydatids; they presented different tints, from a dark purple to a light straw colour (the latter much more rare than the former,) according to the colour of the contained fluids. The darker fluid was generally the thickest, and at the bottom of these cysts there was more or less of a dirty-red grumous-looking fluid. The thickness of the walls of the cysts varied generally in proportion to their size, the larger having the thickest parietes. No trace of the proper structure of the kidney was discoverable. The fluid under the microscope showed an immense number of blood discs (more abundant in the darker fluids,) some oil globules, exudation corpuscles, portions of the tubule of the kidney, and a considerable number of plates of cholesterine. The right kidney presented incipient disease of the same kind, and was enlarged to double its natural size. This patient's father had died with a very considerably enlarged kidney.

THE MEDICAL LICENCE IN FRANCE.—The medical profession in France have little reason to be pleased with the change which has lately taken place in the government of the country. The Republic has diminished the number of patients, suspended regular attendance, lowered the fees, and has now obliged practitioners to take out a regular licence. The amount of the latter is one-fifteenth of the rent of the dwelling, and the first call was made a short time ago, to the great grief of the profession.

Portraits and Biographies of Distinguished Foreigners.

THE BIOGRAPHY OF

ERNEST MITSCHERLICH, M.D.,

Professor of Chemistry in the University of Berlin.

By SHERIDAN MUSPRATT, M.D., F.R.S.E.,
PROFESSOR OF CHEMISTRY IN THE LIVERPOOL COLLEGE.

The name of Mitscherlich being so little known to the general or even to the English medical public, I embrace the opportunity of offering a sketch of this distinguished *savant*, who occupies a position second only to Liebig in Germany. Lives of celebrated men are both interesting and instructive, as they point out the attainment of eminence to be chiefly dependent upon indomitable industry and great perseverance; moreover, biography is universally admitted to be one of the most interesting subjects in the whole range of literature, for it renders us familiar with the character and habits of eminent individuals. Many persons of distinction have met with no literary advocate; while others, of doubtful claims, have had their nonentities exaggerated by adulatory partisans. I am proud of having it in my power to state that I am intimately acquainted with nearly all the leading chemists of Europe, from whom I have received, abroad and at home, at different periods, the most flattering kindnesses; and it affords me a real gratification to bring their names before the public, and to render to their genius all the homage truly and justly merited.

The subject of the present memoir was born in the year 1794, at Newend, in Oldenburgh, where his father was a clergyman. He received the first part of his education at the College of Jever. The celebrated Schlosser was then Professor of History and Philosophy in the College, who, on becoming acquainted with Mitscherlich, formed a very high opinion of his abilities, and advised him to study etymology and the oriental languages.

In 1811, he entered the University of Göttingen, where he devoted himself to the above-named sciences, and he remained there till 1813.

He went to Paris during 1814, but returned towards the close of that year to Göttingen. Here he availed himself of the manuscripts of a work on some particular points of Oriental History; a part of which he shortly after published. He continued to prosecute diligently the study of history and philology, and likewise entered upon the natural sciences, but more particularly zoology, mineralogy, physics, chemistry, and some departments of medicine. The year 1818 saw him in Berlin, where he zealously applied himself to chemical researches. He had the good fortune, in 1819, to be rewarded for his labours by the discovery of isomorphism—a discovery which attracted the notice of Berzelius, who happened to be in Berlin at the time. Mitscherlich accompanied that illustrious Swede to Stockholm, and worked in his laboratory until 1821, when he was nominated a member of the Academy of Berlin, and professor of chemistry in the university of that city. His sphere was still farther extended by being appointed professor of natural philosophy and chemistry in the Military Academy of Berlin. In every department, both of his studies and professorship, he distinguished himself with great ability; and besides, contributed largely to the advancement of science, for which he received well-merited praises from the public. Mitscherlich's earliest and most important researches tended to amalgamate crystaline form and chemical composition. By drawing on physics and mathematics to aid in resolving chemical problems, and by well-arrranged experiments, he overturned the old erroneous doctrine, which taught that any alteration in the relative or ultimate elements of a body caused the crystaline form to change. Thus, the physico-chemical theory of Mitscherlich proved there were component parts of many chemical bodies, which may be replaced by others, without the slightest change in the form of the crystals. He remarked, however, that there always existed an analogy of atomic constitution between bodies which replace each other, and that they must exist in combination, to have the replacement completed without destroying the crystaline form. Mitscherlich has not only set up a principle, but expressed a truth; and has, with unremitting care, during a series of years, furnished the proofs of its existence. Whatever, therefore, may be the alterations made in his theory by others, still, to the eminent professor of Berlin we are indebted for its promulgation; and far more honour is in my opinion due to the discoverer of any fact, than to the man who adopts it and presents it to the world in an improved form. The effect of this great discovery was soon felt in every department of the science. Crystalography assumed a position it had never before held. Isomorphism has been of the highest importance in developing the atomic theory, and the true relations of chemical substances to each other; moreover, it pointed out that the identity of crystaline form does not prove identity of constitution. In proportion as the structure of the crystal becomes more complex, the greater probability is there that two bodies will not assume exactly the same shape, unless their chemical constitution and molecular arrangement be similar. Thus alum has the same crystaline appearance, whether it contain sesquioxides of iron, manganese, chromium, or aluminum; not because their particles have the same figure, but that, in all these cases, the molecule of alum is made up of the same number of simple atoms. By such observations we obtain the foundation of the philosophical classification of bodies, with which the analogies drawn from purely chemical characters are found to correspond in a most remarkable degree. Mitscherlich, in following up this important property of bodies, ascertained, in 1821, a curious and important fact with regard to crystalization—viz., the assumption by the same substance of two incompatible crystaline forms; such bodies he termed dimorphous.

Two examples will be sufficient to show the nature of this observation. Carbon, as in the diamond, is crystalized in octahedrons; but in graphite, in hexagonal plates. Sulphur, when crystalized by fusion, appears in oblique rhombic prisms; when deposited from certain solutions, we obtain it in rhombic octahedrons.

In inorganic chemistry the result of the labours of Mitscherlich were particularly important, for in 1823 he produced artificially inorganic bodies, which were perfectly identical with natural products. He discovered selenic acid in the year 1827, and likewise thoroughly investigated the combination of sodium and iodine; and in 1830-32 he examined the oxygen compounds of manganese. To technology, and inorganic analysis, he added many interesting facts. His process for the manufacture of nitric acid, in 1830, deserves to be noticed as benefiting chemical manufactures; and his introduction of the use of carbonates of potassa and soda mixed, instead of one of them, in the disintegration of silicious and other insoluble bodies, was of great assistance to the analyst.

The organic department of the science also profited by his researches; his investigation on the derivatives of benzoic acid, in 1833-35, is deserving of high encomiums, for he discovered a series of combinations of the highest interest, notwithstanding that his theoretical views and conclusions on the preceding were warmly contested. Benzoic acid has latterly assumed an aspect of great consequence. It has become the foundation of very interesting experimental researches, and embraces one of the most explicit cases of metamorphosis and substitution which occur in organic chemistry. Mitscherlich ascertained, that by distilling benzoic acid and hydrate of lime, the acid was resolved into carbonic acid and a liquid hydrocarbon, which he termed benzine, subsequently called benzole. It is colourless; possesses an agreeable ethereal odour; boils at 187°; its specific gravity 0.85. Benzole was discovered by Faraday to be a constituent of gas-tar, which yields a large quantity of it; but it is usually prepared for laboratory purposes from benzoic acid. Benzole produces, with sulphuric acid, nitric acid and chlorine, a series of substances, fully described by Mitscherlich, and which may be found in any elementary work on the science.

His theoretical views on etherification also met with opposition, but his noble experiments, in 1834, corroborated his former views so fully, that every objection previously offered was in consequence entirely subverted. He conceives the formation of ether to be due to "decomposition by contact"—i. e., alcohol is resolved into ether and water on merely coming in contact with sulphuric acid. To give force to his position, he quotes the decomposition of binoxide of hydrogen by silver, and other bodies; and the conversion of sugar into alcohol and carbonic acid by the contact of ferment, as parallel cases.

Mitscherlich discovered that remarkable and peculiar chemical property of many bodies—namely, chemical decomposition taking place from contact with another indifferent body—a decomposition which Berzelius has attributed to what he termed *catalytic force.*

The numerous dissertations of which Mitscherlich is author are found in the *Annales de Chimie et de Physique*, in the *Annales des Mines*, in *Poggendorff's Annalen*, and other periodicals. Several of his contributions, of earlier date, are contained in the publications of the Academy of Stockholm, his latter productions being incorporated in those of the Berlin Academy, from which they have been transferred to other journals of general circulation. His "Lehrbuch der Chemie" appeared in 1829, and in consequence of its general information, and abundance of original facts, it passed in a very short time through several editions. Mitscherlich's studio is furnished with an excellent library, and his lecture-room, which is provided with the most costly apparatus, is adorned with about one hundred portraits of men renowned in science. The professor's lectures are remarkably well attended, for his style and delivery are both good, and his experiments admirable. The lecture-table is fitted with trap-doors, so that everything ascends in perfect order when an experiment is to be performed. This arrangement, and the cleanliness of his utensils, gained for him the name of the "washerwoman," an epithet applied to him in a severe controversy with his rival.

Professor Mitscherlich is about five feet eleven inches in height; his head is large, his eye full, and his outward appearance prepossessing. The portrait accompanying this sketch is taken from an excellent likeness in my possession. It displays the orders of merit received from his sovereign. When will scientific men in England hold the same elevated rank, or obtain similar insignia, awarded to their brethren on the continent? His bearing is aristocratic and reserved, owing, no doubt, to his associations at the palace; and, I am sorry to say, that on account of the jealousy of his disposition, there are few chemists who are on friendly terms with him.

A characteristic anecdote of him was lately told me in Berlin. Being present at an assembly, and seeing a tall, good-looking young man, of whom he took particular notice, he inquired who he was? A gentleman answered, "Why, that is the son of the great Liebig!" "Who is *he?*" asked the sarcastic professor.

His own students are attached to him; but the students of others, and especially of Liebig, do not receive at his hands a warm reception. He carries his asperities to a most unwarrantable length. When he and Liebig quarrelled, the portrait of the "prince of chemists" was removed from his walls, so that those entering the lecture-room are struck with the vacancy where hung the baron's likeness.

It is strange how such petty animosities exist in the breasts of many of the greatest men in all departments of life; but if we peruse the writings of many of those who have excelled their compeers, we find egotism often to be in the ascendant. The author of "Childe Harolde," *e. g.*, said that the two greatest men who had lived, had the initials N. B.—Napoleon Buonaparte and Noel Byron; and the celebrated John Hunter consoled himself on his death-bed with the idea that the world would never see but one John Hunter. I can tolerate eccentricities *in a good anything;* but when foibles and fopperies accompany little minds, they are contemptible and ludicrous. A most marked difference between Mitscherlich and Liebig is this: the former appears conscious of his great talents and high position; while the latter—and I know this from years of intimacy—is kind and conciliating in his manner, and never is overbearing or offends, unless his feelings are wounded.

In summing up, I would remark that Mitscherlich's character is tinged with a strange idiosyncracy; nevertheless, with all his eccentricities, he has many virtues, and his private character is unimpeachable. His name will be immortal, and the present, as well as a future generation, will profit by his labours.

I have been greatly assisted in drawing out this sketch by Kopp's "Geschichte der Chemie."

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON &c.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tum aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

GUY'S HOSPITAL
Compound Dislocation of the Knee.
(Under the care of MR. BIRKETT.)

WE had occasion, in a recent LANCET, to call attention to a case of spontaneous dislocation of the knee, under the care of Mr. Holt, at the Westminster Hospital. Such cases are somewhat rare when unconnected with destruction of the joint by chronic disease, but a dislocation of the knee, accompanied by a wound of the soft parts, is not only of uncommon occurrence, but likewise of a very dangerous nature, for it will in general entail upon the patient either the loss of life or limb. Sir Astley Cooper says, with reference to this dislocation—"I have seen only one instance, and I conclude it therefore to be a rare occurrence, and there are scarcely any accidents to which the body is liable, which, generally speaking, more imperiously demand immediate amputation, than these." (*Treatise on Dislocations and Fractures.*) We have much pleasure in putting upon record a case of this kind which was treated in the hospital where Sir Astley's memory is still so vivid. The case was drawn up by Mr. W. C. Hills, who kindly put it at our disposal.

W. W., a tall muscular man, forty-one years of age, but of lax fibre, had always enjoyed tolerable health, and was employed at a brewery in Kent. Patient was engaged in carrying a sack of oats up a ladder, and when about ten feet from the ground, he overbalanced himself, and fell backwards, with the sack under him. From his account, which perhaps should be taken with some reserve, it appears that the leg was twisted, the entire weight of the body resting on the inside of the foot (the limb, however, was not entangled in the ladder.) The patient was admitted April 19, 1850, sixteen hours after the accident, and on examination of the limb, it was discovered that a compound dislocation of the left knee-joint had taken place. The wound was about three inches in length, and extended across the popliteal space; the tibia was thrown upon the anterior surface of the condyles of the femur, the posterior aspect of these processes forming large prominences in the popliteal space. On introducing the finger in the wound, the articular process of the external condyle could be felt distinctly, this being the most prominent of the two; the ligamentum patella was relaxed, and the patella itself rested upon the lower third of the femur. The hæmorrhage was purely venous, and the blood slightly mixed with some synovial fluid.

The patient being placed under the influence of chloroform, reduction was attempted, but the best directed efforts did not succeed in replacing the bones in their normal relations. The principal artery of the limb was looked upon as uninjured, as the dorsalis pedis was felt to pulsate strongly, but the superficial veins of the limb were in a varicose state. Under these circumstances, a consultation was held on the case, and it was deemed expedient that the limb should be removed. The patient was therefore brought into the theatre, and having been again rendered insensible by chloroform, Mr. Birkett amputated the thigh at the junction of the middle with the lower third of the femur. The hæmorrhage was very considerable during the operation, on account of great venous congestion, which had gradually taken place; the vessels were then secured, and the stump dressed in the usual manner. Secondary hæmorrhage occurred about three hours after the amputation; one vessel more had to be taken up, and with the aid of cold water the loss of blood was arrested. Mr. Birkett made an inspection of the injured limb, which presented the following appearances:—

The tibia rested on the inner and anterior portion of the lower end of the femur; the crucial and external lateral ligaments were torn from their attachments to the tibia, but they were not otherwise lacerated; the external head of the gastrocnemius, plantaris, and popliteus muscles were torn and completely divided, which circumstance accounted for the external condyle being so prominent; the tendon of the biceps was found inserted as usual. The internal lateral ligament was slightly separated from its attachments at either end, but it was not torn across. The popliteal vessels were uninjured; the peroneal nerve rested in front of the external condyle, and was greatly on the stretch, this seeming to have occurred as the result of the condyle having been forced between it and the posterior tibial nerve.

The patient progressed most favourably for twenty-two days, and the stump was nearly cicatrized, when he was seized with rigors, followed by the usual symptoms of phlebitis, (which disease was at the time prevalent in the hospital,) under which scourge he sank, twenty-seven days after admission.

We stated above, that Sir Astley Cooper had seen but one case of this description; we shall just quote the appearances of the injured joint in that case, from Sir Astley's description, to afford our readers an opportunity of conveniently comparing the two lesions, which will be found to have had various points of analogy, especially as regards the abnormal situation assumed by the condyles of the femur. A material difference exists, however, in the results of the attempts at reduction, since the latter could not be effected in Mr. Birkett's case; whilst, in Sir Astley's, the dislocated bone, when reduced, easily slipped from its place. It will likewise be noticed, that the vessels and nerves escaped in both cases.

"The patient had fallen from the box of a mail coach, and had severely injured his knee. A large opening was found in the integuments, through which the external condyle projected, so as to be on a level with the edges of the skin. The os femoris was thrown behind the tibia on the outer side of the head of the latter, and the external condyle of the thigh-bone was dislocated backwards and outwards; the thigh-bone was twisted outwards, and the internal condyle advanced upon the head of the tibia. I made attempts to reduce the condyle, but it could only be effected with extreme difficulty; and the bone, directly the extension was removed, slipped into its former situation. The joint being freely opened by the accident, the bone dislocated, and when reduced, easily slipping from its place, and the patient, having an irritable constitution, the limb was amputated." On examining the parts, Sir Astley found under the skin great extravasation of blood; the vastus internus muscle had a large aperture torn in it; the tibia projected forwards, and the patella was drawn to the outer side of the knee. Posteriorly both heads of the gastrocnemius was lacerated; the capsular ligament was so completely torn, posteriorly, that both the condyles of the os femoris were seen projecting through the laceration in the gastrocnemius; neither the sciatic nerve, the popliteal artery and vein, the lateral, nor the crucial ligaments, were ruptured. (*Sir A. Cooper on Dislocations and Fractures*, p. 195)

The author adds: "It is probable that all compound dislocations of the knee-joint will require a similar practice, unless the wound be so extremely small as to admit readily of its immediate closure and adhesion."

The ankle-joint is more frequently luxated than the knee; compound dislocations, in the case of the ankle, do, however, not so necessarily cause the loss of the limb as when the knee-joint has thus suffered. We recollect a case admitted, a little time ago, under the care of Mr. South, at St. Thomas's Hospital, where a man, about thirty years of age, met, in consequence of a fall, with a compound dislocation of the left ankle-joint. The inferior extremity of the tibia had been forced through the soft parts on the inner side of the joint, and was protruding; the fibula was of course broken, and the wound extended from the astragalus round the external aspect of the joint, as far as the inner border of the tendo-Achillis. It did not, however, appear that a large arterial trunk had been injured; and the result of the consultation was, that an attempt should be made to save the limb. Mr. Dixon therefore sawed off about one inch of the protruding portion of the tibia; the bone was then replaced, and by proper rest and treatment the patient recovered, with a tolerably useful leg, a limited amount of motion existing in the ankle-joint.

Another case of compound dislocation happened, a few weeks since, in St. Thomas's Hospital. The displacement existed here principally in the foot, the astragalus being dislocated from the scaphoid bone, and fractured across its neck; the tibia was broken in several places towards its lower extremity, but its inferior articular surface was still in normal contact with the astragalus. The fibula was likewise fractured, and the soft parts were extensively lacerated, the patient having met with a fall from a height. Mr. Simon made several attempts at reduction, but his efforts were unsuccessful, and he was obliged to have recourse to the amputation of the leg. When the parts were examined after the operation, they offered a very remarkable example of complete fracture of the neck of the astragalus, with displacement of its head. The second and third metatarsal bones had likewise been broken.

It is evident that the complication of a fractured tibia in this case was a great hindrance to the extension and manipulation necessary for reduction, as it would have been difficult to secure the bones sufficiently by splints, to allow a certain amount of traction. We cannot, however, agree with Nélaton, who, in his Pathologie Chirurgicale, finds fault with Sir Astley Cooper for advising such a practice. We once witnessed, in the City of Dublin Hospital, the reduction of a luxation of the humerus in the axilla, where the same railway accident had caused the fracture of the bone in two places, as well as that of the tibia. The humerus was firmly bandaged, secured with pasteboard splints, and the apparatus was sufficiently powerful to allow of the extension necessary for the return of the head of the bone to the glenoid cavity. The reduction was effected, the fracture of the humerus united, the leg had some time afterwards to be removed, and the case did well.

Sulphate of Zinc in Chorea.

(Under the care of Drs. ADDISON and BARLOW.)

Whilst visiting the medical wards of Guy's Hospital, we have often noticed the success with which sulphate of zinc is administered in cases of chorea; and although we are aware that the profession have been made acquainted with the power of zinc in chorea by the able paper of Dr. Hughes in the *Guy's Hospital Reports* for 1846, we put the following cases upon record, that the continued good results of this mode of treatment might be made extensively known. Before entering into details, we shall just quote from Dr. Hughes's digest a few facts connected with the use of zinc in the convulsive disease under consideration.

"*Zinc.*—This metal has been more largely administered than any other. In all cases, with the exception of two, which were successfully treated by the oxide, the sulphate has been the form in which it was prescribed. The dose has been increased up to thirty-six grains three times a day. It has not often caused sickness. The stomachs of some persons, however, appear unable to bear it, even in small doses; and in others the organ rebels against the increase after a certain number of grains has been attained. Zinc was prescribed in sixty-three cases. Of these it effected a cure in forty-five, or seventy-one per cent.; it relieved in two; it failed to effect a cure in sixteen, or twenty-five per cent. In seven of the forty-five cases iron had previously failed; the zinc was given together with iron in one, and with the administration of electricity in five cases."

It will thus be seen how trustworthy a remedy is the sulphate of zinc in this disease; still as chorea, independent of its connection with rheumatism, often arises from imperfect nutrition, it might be the case that the improved diet, rest, and comfort which the patients experience in the hospital, had some share in the amendment. We should not omit to state, that we heard Dr. Golding Bird maintain in the wards a few days ago, that zinc has a peculiar and specific influence on the nervous matter, in about the same manner as iron on blood.

The first case, the notes of which were taken by Mr. H. B. Wood, refers to a little boy eight years of age, very weakly and strumous-looking, who was admitted into Job ward, Oct. 11, 1850. He had had frequent attacks of croup, and never enjoyed robust health. About three weeks ago whilst going to school, he was frightened by a bullock, and a few days afterwards he began to exhibit strange contortions of the body, which went on increasing in frequency and intensity up to his admission. The poor little patient was in fact constantly in motion, except when asleep. When examined, he was found very thin; skin hot and dry, and pupil dilated. The intellect was quite clear; the tongue red and injected, and protruded in a quick, sharp manner, but withdrawn quietly. The articulation was considerably affected. Pulse 76, sharp, very irregular in rhythm, with systolic murmur under the nipple. Respiration very irregular in frequency; bowels open; and appetite inclined to be voracious. The involuntary muscular twitches of all the extremities are constant.

Purgative doses of mercury with soda were administered, and a few days afterwards the patient had sulphate of zinc, galbanum pill, and extract of hyoscyamus, of each two grains, in the form of pills, one to be taken morning and midday. The sulphate was increased by half grains every other day, and on the sixth after admission the systolic murmur had decreased, and the movements were less convulsive. Wine was ordered on the fourteenth day, and on the seventeenth the patient was reported as improved in every respect; the heart's action was more regular, and the muscular contractions of the limbs hardly noticeable, except the patient became excited. On November 3rd, the twenty-second day after admission, the little boy was beginning to feed himself; the hands were getting steady, and the respiratory movements, as well as the action of the heart, more regular. On the thirty-ninth day he could almost command the use of his limbs, taking, at the time, eleven grains of the sulphate per diem; and he was discharged December the 9th, about two months after admission, walking without any involuntary muscular contraction, and in good general health.

The notes of the second case were taken by Mr. Oddling. The patient is a little boy, six years and a half old, who was admitted into Job ward, November 19, under the care of Dr. Addison. He is a child of fair, florid complexion, and light brown hair; has always enjoyed good health up to a month ago, when, having been sent to a shop with money which he lost on his way, he returned home very much frightened, and on the next day strange movements were first observed. We may mention in this place that fright has certainly a large share in the causes which produce chorea; and if we turn to Dr. Hughes's excellent paper, we find the following passage on the subject: "*Fright.*—It appears to be generally acknowledged in the profession, and it is very commonly assumed by parents, that fright is a very frequent exciting cause of chorea. As far as the table may be trusted—and as regards the particulars enumerated, I believe it may entirely be trusted—this very common opinion appears to be correctly founded." The patient had never had rheumatism. We are aware that this is not the place for entering upon the consideration of the connection which has been traced between chorea, rheumatism, and heart disease; but we thall just quote, from the *Guy's Hospital Reports* of 1846, Dr. Hughes's opinion on the subject. "*Rheumatism.*—Next to fright, rheumatism may be regarded among the most common causes of chorea. The connection between the two diseases has been often noticed; and the frequent occurrence of spasmodic affections with pericarditis, which, in the great majority of cases, is of rheumatic origin, has been particularly illustrated by Dr. Bright, and more recently by Dr. George Burrows. It appears at least doubtful, whether, in most of such cases, there exist anything more than a sympathetic affection of the spinal marrow, seeing that after the removal of the rheumatic affection the chorea is usually curable by the same remedies which are found available in cases of chorea having a different origin." Dr. Hughes states that from his table rheumatism was the cause of chorea in the proportion of fourteen per cent.

On admission it was found that the head and all the limbs were constantly being tossed in every direction; there was difficult articulation, but the convulsive movements were pretty similar in amount on either side of the body. The mind was clear; the boy never had a fit; the respiration was normal; the tongue clean, the appetite good; bowels costive; and urine normal. The first sound of the heart was accompanied by an abnormal bruit, but the rhythm otherwise regular, and the skin moist and supple.

Dr. Addison ordered a purgative dose of scammony and mercury, and soon afterwards one grain of sulphate of zinc, to be taken three times a day. On the third day the dose was increased to one grain and a half, and on the tenth day the convulsive movements had considerably diminished, the abnormal condition of the heart was disappearing, the general health being very good. The dose was now increased to two grains and a half three times a day. On the twentieth day the movements were but very slight, and the cardiac bruit had materially decreased; the patient now took four grains, at the same periods. On the twenty-fourth day, five grains were ordered; and on the twenty-sixth day after admission, the boy was discharged without a vestige of choreic movements, though there was still a slight murmur accompanying the systole of the heart.

We lately noticed, in Job ward, a third case, which has so remarkably improved, that we annex a short sketch of it, from Mr. Wood's notes, though the little patient is not yet quite well. This boy is fifteen years of age, and was admitted under the care of Dr. Barlow, December 18th, 1850. He is the son of a stonemason; has been subject to ulcers on the extremities and pains in the head, but never had a fright, fall, blow, or rheumatism. For the last six months he has been engaged as waiter, with a great deal of work up and down stairs, never going to bed before twelve o'clock. He was at last obliged to leave his situation, with pains in the back and head, and difficulty of walking. His manner was at the same time altered; he would, without any apparent cause, burst out crying or laughing, and make contortions in the face, which, with twitchings of the limbs, became worse and worse, the articulation growing indistinct at the same time.

On admission he was found to be a strumous boy, of light complexion, and vacant expression of countenance, the whole frame being affected with convulsive movements, which every second caused the whole frame to be tossed in different directions. The tongue was protruded with difficulty, and it was almost impossible to understand what the patient wished to say. The right side of the body is worse than the left, and when the boy is spoken to or looked at, the paroxysms are frightful. Appetite voracious; slight pain in the head; skin hot, but pliable; pulse frequent and irregular; tongue injected round the edges; but creamy in the centre. The patient sleeps badly, but the action of the heart and lungs is healthy. After a smart purgative, Dr. Barlow ordered half a grain of sulphate of zinc to be taken three times a day. On the third day, this was increased to one grain; on the eighth, to two grains, and thus the doses were increased by one grain every other day. The boy is now taking five grains three times a day, and is almost well. As he was accustomed to take much malt liquor, Dr. Barlow allowed him a pint of porter per diem.

Cicatrization of an Ulcer promoted by the Electric Moxa.

(Under the care of Mr. Bransby Cooper.)

It has generally been observed that new and partially successful therapeutical agents create such enthusiasm, and raise such sanguine expectations, that their virtues are readily believed to be universal. Judging by analogy, practitioners are inclined to make experiments with the new remedy on a great variety of diseases; the appearance of success causes the wonderful agent to be more and more extolled, until a sudden reaction occurs; and the once useful remedy is again distrusted and finally forgotten. If we take electricity and galvanism, for instance, in their character of remedial agents, we shall have a good example of the length to which enthusiasm may go, and of the discredit into which a too highly praised and too universally applied remedy may fall. Galvanism is, however, far from having altogether lost its ground in a therapeutical point of view, for it is rendering services so palpable and evident in nervous affections that it can hardly be entirely neglected, though it is far from holding the sway it did some years ago. It is principally in cases of paralysis either of a part of the body, or of a set of muscles supplied by a single nerve, or else in certain convulsive diseases, that we have had occasion to see it applied in the London hospitals, and we shall take an early opportunity of recording several cases where the application of electricity was followed by very satisfactory results.

Galvanism has lately been used at Guy's Hospital to promote the cicatrization of a very obstinate ulcer; and in thus having recourse to a galvanic current, Mr. Cooper was reviving a method which he had applied in the same institution, under similar circumstances, several years previously. We heard Mr. Cooper state, in a clinical lecture, that his attention was formerly directed to the electric moxa, by Dr. Hull, of the United States of America. Dr. Hull's object was principally the restoration of skin where much integument had been lost around ulcers, &c.; and he used to place the positive pole of the battery on some part of the body, and the negative on the ulcer. Mr. Cooper was induced to try the electric moxa at that period, and obtained very favourable results. The battery having, however, proved cumbersome, Dr. Golding Bird introduced the simple method of using two plates, one of silver, and the other of zinc, connected by a copper wire. The latter apparatus has, as we stated above, been employed with remarkable success in a patient affected with an obstinate ulcer, and we proceed to give an outline of the case, aided by the notes of the dresser, Mr. W. Kirkman.

The patient is a strong and robust young man, twenty-two years of age and of temperate habits, who was admitted under the care of Mr. Bransby Cooper, Sept. 11, 1850. He stated that two years previous to his admission, whilst rabbit-shooting, the gun of a friend who accompanied him accidentally went off, the latter being at the time about two yards from him. The charge of shot passed obliquely through the soft parts of the right instep, and injured the navicular bone. He was at once conveyed to Guy's Hospital, where he remained about seven months, under the care of the late Mr. Key. During the treatment several pieces of bone came away as often as two or three times a week. At the suggestion of Mr. Key, the patient left the hospital, and went into the country for the improvement of his general health, the wound not being at that time quite cicatrized.

Though he gained strength and the foot improved, the wound never completely healed up, and some time before his second admission it began to increase in size, so that when placed under the care of Mr. Bransby Cooper, it was about the size of the palm of the hand.

This ulcer was situated on the inner side of the right foot, and below the ankle; it was of a triangular shape, and presented an indolent and atonic appearance, the granulations being situated much below the margins.

Carrot poultices were first used, and leeches were from time to time applied round the sore. Warm water dressing was subsequently employed, and the patient took sarsaparilla; but this treatment, continued for about six weeks, proved unavailing as regarded the cicatrization of the ulcer.

At this period Mr. Cooper ordered the electric moxa to be applied; this was done in the following manner: a small oval piece of blistering plaster, about the size of a crown-piece, was placed six inches above the sore. On the following day, a blister having formed, the cuticle was removed, and a plate of zinc, previously cut so as accurately to fit the vesicated surface, was applied on the same. A silver plate was then placed on the original sore, and the two metallic agents connected with a copper wire. This simple apparatus was secured on the limb by means of a few narrow strips of adhesive plaster, the whole being covered with wet lint, and a loose bandage, which latter was kept constantly moist.

On the next day the silver plate was raised for the purpose of examining the sore, and a most decided improvement was observed, the granulations looking more healthy and active. On the second day, however, (the moxa having remained in contact with the limb for forty-eight hours,) there was pain and considerable redness over the whole leg, with enlargement of the inguinal glands. The moxa was therefore removed, the stimulating effects having evidently caused inflammation of the absorbents; yet the original sore had a more healthy appearance, and was evidently decreasing in size. On the fifth day the inflammatory symptoms had considerably subsided, and the sore was improving fast. On the ninth all pain and redness in the leg had disappeared, and a slough separated from the blistered surface to which the zinc plate had been applied. The original ulcer was found much decreased in size, being now no larger than a crown-piece; the granulations assumed a healthy appearance; they rose to the level of the margins, and were covered and protected towards the centre of the sore by a whitish layer of healthy pus. The borders were becoming flattened and regular, and the gradual extension of the cuticle could be distinguished within them.

The cicatrizing process went on uninterruptedly for several weeks, until the 7th of January, 1851, about four months after admission, when the ulcer was quite healed up, and the patient left the hospital in good health. He was, however, recommended not to bear the whole weight of the body upon the leg for some time to come, and allow the soft parts about the ankle to gain tone before he used them freely.

In reviewing the various facts connected with this case, one is involuntarily led to ask whether the galvanic excitement acted directly on the sore, or indirectly through the vascular disturbance which was brought on by the continuous presence of the moxa for forty-eight hours. That erysipelas has repeatedly been conducive to the disappearance of congestion in internal organs or external parts, is well known; nor are there examples wanting of artificial ulcers aiding in the cicatrization of long-standing sores, so that the influence of the electric moxa seems at first sight more likely to have been exerted indirectly than directly. Still it must be conceded that this indirect effect may be of a peculiar nature; further trials will probably settle the point.

Whilst on the subject of the therapeutic uses of galvanism, we should not omit to mention the galvanic poultice lately proposed by M. Récamier, of Paris. It has successfully been used for neuralgic and rheumatic pains, &c., and consists of a piece of cotton-wool, containing a layer of minute fragments of zinc, and another of particles of copper; the wool, being properly sewn up, is placed in a bag, one surface of which is of cotton, the other of an air-tight tissue. The permeable surface of the bag is then applied to the skin, and fixed by a roller or a towel; heat is soon developed; the perspiration, retained by the air-tight texture, accumulates; it moistens the bag, and this moisture, which is acid, acts on the zinc and copper placed in the cotton-wool.

Thus the two metals are acted upon by a dilute acid solution, just as they are in the trough or the pile, and a certain amount of electricity is disengaged. When the skin is very dry and unperspirable, a piece of flannel, dipped in a solution of common salt, and then wrung out, is placed between the galvanic bag and the skin. Electricity is given off to such an extent, that it acts like a mustard poultice, though there is no pain, but merely a pricking feeling of warmth. Time will show whether M. Récamier's galvanic poultice acts otherwise than common counter-irritants.

Rheumatic Fever treated by Acetate of Potash.

(Under the care of Dr. GOLDING BIRD.)

ONE of the acute diseases which the hospital physician is most frequently called upon to treat is rheumatic fever; we have ample opportunities of seeing this fact verified, and have taken advantage of that circumstance to observe the methods of treatment which are employed in the hospitals of London against this very common affection. If our readers will refer to previous LANCETS, they will find acute rheumatism treated with colchicum, acetate and nitrate of potash, and lemon-juice respectively. We now beg their attention for a few moments, whilst we give an outline of Dr. Golding Bird's treatment of rheumatic fever with acetate of potash alone. It is of course understood that the generality of physicians abstract blood, either generally or locally, and give mercury, when symptoms of pericarditis become manifest, these measures being adopted independently of the peculiar line of treatment.

No one will be surprised when we state that we were peculiarly interested in the progress of the cases for which Dr Bird prescribed acetate of potash; for his lectures, delivered in 1848 at the College of Physicians, had taught the profession *why* the diuretic salt above mentioned might be useful in rheumatism. (Lectures on the Influence of Researches in Organic Chemistry on Therapeutics, in Relation to the Depuration of the Blood, *Medical Gazette*, 1848, vols. i. and ii.) Dr. Golding Bird, after giving a detail of the solid matters found in the urine whilst the functions are in a normal state, adds: "but we also know that the researches of Wohler have shown us something more—viz., that whatever substances exist dissolved in the blood not necessary or fit for the repair of the structure of our frame, invariably escape from the body by the kidneys. The injection of saline bodies, colouring matter, &c., readily proves Wohler's statement." The lecturer mentions, a little further on, that the septic agents do not re-appear in their original form, but that they undergo metamorphosis; and proceeds in these terms:—"Can we at will by therapeutic agents produce this depurating effect, and by hastening the metamorphosis of matter, aid the removal of a *materies morbi*, whether itself the exciting cause or effect of antecedent morbid action?"

Before we state which are the *therapeutic agents* most likely thus to depurate the blood, we should mention what efficacy Dr. Bird ascribes to the increase in the secretion of the kidneys: "It will be found that the increase of water does not escape alone, but there is really washed away with it a certain although not very large quantity of solid debris.". . . . "This is a key to the cures effected by mineral springs." .... "I would press upon the practitioner the importance of directing his attention to diuretics, not as merely helping the pumping off of the water, but as *renal alteratives*, as remedies aiding the removal from the body of injurious matter." The diuretic to which Dr. Golding Bird gives the preference for removing the *materies morbi* in rheumatism is acetate of potash; it appears that this agent has been extensively used by Dr. Bird. We shall just give the outline of two cases, the progress of which we very lately watched with great care.

Case 1.—Notes taken by Mr. G. Evans, clinical clerk. Jane P., aged sixteen years, a girl, of sanguineous temperament, following the occupation of nursery-maid, was admitted under the care of Dr. Golding Bird, on December 18, 1850. The patient's parents and sisters reside in Gloucestershire, and all enjoy good health; she states that while in service (which she left the evening before admission) she slept in a kitchen underground, this place being, according to her statement, tolerably dry, but deficient in cleanliness. Her health had always been good up to a fortnight before she came into the hospital, when she was attacked with dull, aching pain in her right ankle; the joint became stiff and swollen, and the knee was soon similarly affected in spite of the treatment devised by her *mistress*. She was at length placed under medical care, but the malady made rapid progress, and had soon invaded the left ankle and knee, as well as the shoulders.

She was thus labouring under inflammation of the principal joints when admitted, at which period she presented the following symptoms:—skin hot and dry; tongue slightly furred; pulse quick and full, and slight headache. The wrists, knees, and ankles, swollen, stiff, and painful, and yielding a dry, rubbing sound on being moved. Bowels and catamenia regular; appetite tolerable; sleep very indifferent. Dr. Bird ordered twenty-five grains of acetate of potash to be taken every fourth hour in camphor mixture, and eight grains of Dover's powder at night. The patient was much better on the third day; she moved her wrists with facility, and without pain; the skin had become moist; she slept better; the bowels acted once a day, and the appetite was improved. Pulse the same as before, and tongue more furred. The medicine was continued, and on the seventh day the ankles were free from pain, though the arms became somewhat stiff and swollen; all the other symptoms improving.

On the fourteenth day, the pulse was natural, and the patient quite free from pain in any joint; the appetite was very much improved; and to each dose of the acetate of potash hitherto regularly taken every fourth hour, four grains of ammoniocitrate of iron were added, and the girl was desired to get up for two or three hours a day. The latter injunction was carried out to a greater extent than had been prescribed, and the consequence was a slight relapse on the seventeenth day; this, however, soon gave way, and on the twenty-first day the patient was discharged quite well.

Case 2.—Notes taken by Mr. G. Puckle, clinical clerk. Ellen G., aged twenty-nine years, a married woman, who has had one child, and is between three and four months advanced in pregnancy, was admitted under the care of Dr. Golding Bird, Dec. 18, 1850. (It will be perceived that both patients, in Cases 1 and 2, were admitted on the same day, and as they lay in the same ward, it was very interesting to watch the effect of the acetate of potash upon these patients.) This woman is a native of Ireland, of florid complexion, irritable and sanguineous temperament; she has usually enjoyed good health, and is affected with rheumatism for the first time. Five days before her coming into the hospital, the patient got very wet, and the same evening the right wrist became painful and swollen, the next day the knee, and subsequently the shoulder of the same side became similarly affected.

On admission, the right shoulder, wrist, and knee, were exquisitely tender, as well as swollen and painful; the cheeks were flushed; there was headache, and sour-smelling perspiration; tongue covered with a dirty-white fur, and red at the tip and edges; pulse quick, full, and bounding; urine turbid and acid; great restlessness, and no sleep for several nights. Dr. Bird ordered half a drachm of acetate of potash to be taken every fourth hour, in camphor mixture; and ten grains of Dover's powder at night. The doses were somewhat larger than in the preceding case, both probably on account of the difference of age and the severity of the symptoms. As the joints were exquisitely tender, soda poultices (the ordinary linseed poultice, made with a solution of carbonate of soda, instead of plain water) were applied to the affected articulations. On the third day the patient was considerably relieved; the bowels were, however, confined. Calomel and colocynth were ordered, and the acetate continued. The improvement was steady and gradual; and on the sixteenth day all the joints were well, with the exception of a little stiffness about the shoulder. The patient then took two grains of disulphate of quinine three times a day, and was soon quite well. The urine was in both cases considerably increased in quantity.

It will now be necessary to inquire for what reason Dr. Bird prefers the acetate of potash to other diuretics. If we turn to the above-mentioned Lectures, we find the following explanation:—

"Squill, copaiba, broom, juniper, &c., merely increase the fluids, and are useful in dropsy." ... "Remedies which exert no chemical action on organic matter out of the body, appear to be incapable of augmenting the quantity of solids in the urine, and hence are of use only in the elimination of water; they may and do act as renal hydragogues, but not as renal depurants." ... "We have next to notice those remedies among the reputed diuretics which increase the metamorphosis of tissue, and act as *depurating agents*. This class includes the alkalies, their carbonates, and their salts, with such acids as in the animal economy are capable of being converted into carbonic acid, including the acetates, tartrates, and citrates of soda and potash. These remedies act all alike—they all actively stimulate the functions of the kidneys, and increase the bulk of the urine; but they do more—they actually increase the metamorphosis of tissue by, in all probability, a direct chemical action on the elements of worn-out and exhausted tissue or other matter in the capillary laboratory of the body."

As to nitrate of potash, Dr. Bird has found it inferior to the acetate of the same alkali. He has used the latter with much advantage, as he finds that "the quantity of fluid removed from the body by the nitrate of potash is far less than that which is carried off under the solvent influence of those agents which act more energetically on animal matter."

LONDON HOSPITAL.

Severe Double Talipes, resulting from long Disuse and faulty position of the Feet; Tenotomy, and Rupture of Anchylosis; Rectification of the Deformities.

(Under the care of Mr. Curling.)

It is extremely satisfactory to notice how generally orthopædic surgery is in our days cultivated, and there can be no doubt that the benefits conferred upon society by that useful branch of surgical science have been very great. Since the time when Guerin, of Paris, directed the attention of practitioners to the advantages of dividing tendons and muscles, for rectifying various deformities, such practice has become quite common, and it falls to our share to see such operations very frequently performed in the London hospitals. The results are generally favourable, when the apparatus afterwards applied is well suited to the case and its effects watched with great care. But modern enterprise has gone further, and attempts have been made to interfere with anchylosed joints, with a view to restore a certain amount of motion to them. This was, however, but the revival of a former practice; and M. Bouvier, a French surgeon, has the merit of having made several trials in that direction in the year 1839. His way of rupturing the adhesions of anchylosed joints gave rise to some unpleasant results, which caused the new method to be given up. Dieffenbach, however, took up the subject, and connected the rupture of the anchylosis with the section of the hamstring muscles, where the knee was operated upon. Palasciano, of Naples, added the section of the fascia lata, and of the triceps femoris, to the above. Professor Bonnet, of Lyons, has very lately directed much attention to these operations, and invented a series of apparatuses, to be used for the subsequent treatment, and to facilitate the forced flexion of the leg upon the thigh. He has given full developement to his ideas on the subject in a late number of the *Gazette Médicale de Paris*. It is not very likely that this bold and dangerous practice will be adopted by many surgeons in this country, for it does not seem very clear that the advantages are sufficient to warrant the running of the great risk which doubtless accompanies the violent rupture of anchylosed parts. These measures may, however, in certain cases, be partially had recourse to; and it will be seen, by the following case, how serviceable the forcible rupture of ligaments may be made, when unusual deformities are to be rectified. We had frequent opportunities of seeing the patient, in Mr. Curling's wards, whilst he was under the restraint of the apparatus, and were very much interested in the progressive improvement of this extraordinary case. We subjoin the following details, obtained from the notes taken by Mr. Townsend:—

The patient is a brewer's clerk, aged forty-two, who, two years and a half ago, had an attack of typhus fever. In the course of the disease, while in a state of delirium, he jumped out of a third-floor window, in Beaumont-square, Mile-end; but as he was able to walk upstairs again, with only some slight assistance from his wife, it would appear that he did not suffer any very serious injury. This happened about the middle of May, 1848. In the beginning of June of the same year, he was brought to the London Hospital, on account of great swelling of both legs, and a large sore on the lower part of his back, the consequence, according to his account, of bruises received in his fall from the window. He remained in the hospital from the 6th of June until shortly before Christmas, under the care of a former surgeon. He was then discharged, his legs still being swollen, and the sore on the back not healed. On leaving the hospital, he went to stay with some friends in the country, for the benefit of his health. While there, he suffered much from a constant pain in his right side, and once vomited a quantity of blood. He in consequence consulted a medical man, who salivated him. This relieved the pain in the side, the swelling in the legs subsided, and he shortly regained his health. Upon the subsidence of the swelling, he perceived that both his legs were deformed to such an extent that he could not walk, nor even stand. He remained in the country until August, 1850, when he was admitted, under the care of Mr. Curling, in order that something might be done for his relief.

Upon examination, there was found on the left side subluxation backwards, with rotation of the head of the tibia, turning the foot outwards, with firm bony anchylosis and complete loss of motion in the knee-joint. The tendo-Achillis also on the same side was much contracted, and the foot fixed in a state of extreme extension, forming *talipes equinus* with the toes pointed. On the right side, in addition to extreme extension of the foot, there was abduction and rotation of the foot with contraction of the tibialis anticus and tibialis posticus, as well as of the tendo-Achillis, producing the compound deformity of *talipes equino-varus*. In the left ankle-joint, by using considerable force, some slight motion was perceptible, but on the right side loss of motion was so complete, that it appeared as if anchylosis had taken place, and not much hope was entertained of remedying the deformity.

The patient who appeared quite restored to a good state of health, was so completely crippled that he could only crawl along the ground, and was so desirous of obtaining greater powers of locomotion, that he had made up his mind to submit to amputation of both feet if necessary for the purpose. After careful consideration of the case, Mr. Curling determined on attempting the cure of the deformity in both feet, by tenotomy and mechanical means.

On the 22nd of August, Mr. Curling divided the tendo-Achillis of the left foot, and the same tendon with those of the tibialis anticus and tibialis posticus of the right. The limbs were suffered to remain perfectly at rest for nearly a week after the operation, and then one of Scarpa's improved shoes, with stiff steel support, and rack and pinion movement at the ankle, was applied to each foot. The tension was at first slight, but gradually increased. About a week after the application of the shoes, the case not having made much progress, they were taken off, and Mr. Curling endeavored to bend the left ankle-joint, using considerable force, and while doing so, he, as well as the patient, distinctly felt some tendon or firm ligament give way. The same was done to the right foot a day or two afterwards, and a sensation of something snapping likewise produced. On both occasions the patient felt faint after the operation, and suffered a good deal of pain, which passed off, however, in a few hours. The shoes were re-applied, and by gradually increasing the flexion, the case progressed most favourably. The abduction of the right foot was readily overcome by a bandage round the toes, attached to a lateral spring on the outside of the shoe. In the beginning of November, the patient was able to place the soles of both feet on the ground, and boots were substituted for the instruments. In a few days, with the aid of crutches, he managed to stand and move about a little.

The patient was discharged about three months after admission. Both feet were in their natural position with respect to the legs, and motion so far restored in the ankle-joints that the man can himself bend and extend his feet to a slight extent, and as the muscles regain their tone by exercise, this faculty will no doubt be increased. He walks tolerably well with crutches. The principal impediment now arises from the deformity caused by subluxation and anchylosis of the knee-joint, which is irremediable. An iron is carried up from the boot to the outer part of the thigh, to counteract in some degree the eversion of the foot, to support the limb, and prevent the weight of the body falling too much on the inner part of the foot.

Amputation of both Legs at one Operation; Rapid Recovery.

(Under the care of Mr. Critchett.)

Cases like the above are well calculated to make us pause and admire the power of endurance of the human frame, and the great benefit which may accrue from decisive and well directed surgical operations. It is in some degree fortunate for patients when the injury they have sustained is not of that nature where considerable doubt and perplexity exist as to the propriety of amputating or not; for such cases are often lost by a well-intentioned delay, or the patients recover with limbs which they can hardly use. Our principal aim, in putting the following case upon record, is to place before our readers an example where two extremely severe shocks were encountered at a very short interval, both being recovered from in a very remarkable manner. The case was kindly pointed out to us and noted by Mr. Prater, house-surgeon to the hospital.

The patient is a fireman on the Eastern Counties Railroad, thirty years of age, and of *temperate habits.* On the 14th of November, 1850, he had the misfortune to fall off his own engine, and was run over by a whole train. Both the poor man's legs were literally chopped up as far as the knee, and, as is usual with such terrible crushings, very little hæmorrhage occurred. The patient was immediately conveyed to the hospital, and when his precarious condition was ascertained, a tourniquet was placed on each thigh as a matter of precaution, and stimuli administered. When it was found that each leg was merely attached by a narrow slip of skin, they were removed, the patient being all the while unconscious of the terrible loss he had sustained, and constantly asking for a pillow to be placed underneath his ankles, as both the latter and his feet, as he said, were rather heavy.

Mr. Critchett soon saw the poor man for Mr. Luke, and recommended amputation of both legs above the knee, much to the patient's astonishment, who could scarcely be convinced of his loss. The operation was forthwith performed, after chloroform had been administered with success; the simple chloroform being inhaled first for producing the anæsthesia, and afterwards chloroform and æther mixed to keep up the effect. The pulse fell very much immediately after the removal of the two remnants of legs, and the hæmorrhage from the femoral vein was very considerable. Mr. Critchett amputated by the double flap—a method of much value, if we are to judge from the excellent appearance which the stumps now present. Both the latter were made exactly the same length; they were dressed on the table, and the patient was put to bed, thirty-five minims of tincture of opium being immediately administered.

The laudanum was, however, almost instantly thrown up again, and it was thought advisible to give the opium in small doses, so as to allay by degrees the irritability of the stomach. Five minims of the tincture were therefore given every hour, and thus the sickness was subdued.

On the following morning the patient was still faint; he was ordered effervescing saline draughts, with five minims of laudanum in each, to be taken every two hours. He gradually improved throughout the day, and on the second morning after the operation he was ordered beef-tea, with a pint of porter; his bowels to be opened in the evening by house medicine. On the fourth day, the abdomen being tumid, and no stool having been obtained, a mustard cataplasm was applied on the abdomen, and a Seidlitz powder given. When the stumps were opened for the purpose of dressing them, they were found in a very healthy condition, and put up in the usual way. On the fifth day the patient was ordered a chop and two pints of porter, and from that time he rapidly improved. On the fifteenth day he was put on the full diet of the hospital, and went on very favourably until the twentieth, when the pulse was observed to fall, and slight delirium to occur at intervals. He was immediately ordered eight ounces of wine, which stimulant had the effect of rousing him considerably. A tonic of another class—viz., opium—was now and then ordered as a night draught, and the rest thus procured did certainly contribute to the favourable results obtained. On the 1st of January, 1851, about six weeks after the accident, the patient's health was extremely good, and both stumps were cicatrized.

That there is a certain amount of congestion produced in internal organs after the removal of a considerable portion of the body, can hardly be doubted, and it is very likely that certain anomalous symptoms observed after amputations may, at least, be connected with this cause. If, however, such congestions were really dangerous, the present patient could scarcely have done so well, as he lost altogether but little blood, and had a large portion of his body removed. It would, on the contrary, appear that the stimulating treatment adopted by Mr. Critchett, almost immediately after the operation, was principally conducive to the patient's recovery. It was likewise very remarkable how long the nervous sensations of the destroyed limbs were retained in the cerebro-spinal axis, for the patient, after this terrific injury and complete severance of both his legs, earnestly requested that his ankles and feet should be supported. That the man has a good constitution, uncontaminated by excesses of any kind, must be clear, by the results of the operation; and we venture to say, that his temperate habits have had no little share in the preservation of his life.

Lithotrity; Great Enlargement of the Prostate Gland; Extraction of the Fragments with the Lithotrite Scoop; Cure.

(Under the care of Mr. Curling.)

The great controversy respecting the relative advantages and dangers of lithotomy and lithotrity has had this important result, that the adherents of either plan of treatment have respectively endeavoured not only to defend their favourite operation with much warmth and talent, but likewise to improve their mode of operating, and the instruments used for the purpose. It may well be said that both lithotomy and lithotrity are now performed in the principal countries of Europe with much skill and dexterity, and a tolerable amount of success. As it is our province to be present at most of the operations of importance which are performed in the metropolitan hospitals, we have frequent opportunities of seeing surgeons cut for stone; and we may say, 1st, that lithotomy is performed pretty frequently; 2ndly, that the tendency is decidedly to simplify the operation as much as is consistent with safety, the gorget being still used by some surgeons; 3rdly, that the results are in general favourable.

Here and there a little alarm is created by secondary hæmorrhage; and cases have occurred where the perinæal wound showed for a long time a strong disinclination to heal up; but of such occurrences a certain proportion must invariably take place, especially as patients very unfavourably situated for the operation are now and then admitted into the hospitals.

We see much less lithotrity; this operation is probably more frequently performed in private practice, where patients apply early for relief, whilst the poor often delay for a long time placing themselves in the hands of a surgeon. Still we witnessed several crushings of stone within the last few weeks, and we are glad to say that much success has been obtained; this circumstance being highly satisfactory, as we need not tell our professional brethren how much more successful is lithotomy than lithotrity, at least statistically speaking. The discrimination necessary for distinguishing the cases fit for either operation is not of a trifling kind, and there can be no doubt that success depends very materially on the judicious choice of subjects. In the case which we have to place upon record, most of the circumstances favourable to the crushing of the stone were present, yet one great obstacle lay in the way of successful lithotrity—viz., enlargement of the prostate gland. We shall see by the sequel how Mr. Curling overcame this, and some other difficulties which sprung up, and we proceed to give a short outline of the case.

The Rev. William W——, a clergyman of the Church of England, and Bard of the Forest of Dean, aged fifty-four years, a tall, strongly built man, was admitted into the London Hospital, Feb. 27, 1850, suffering from stone in the bladder, and partial retention of urine, consequent on the great enlargement of the prostate gland. He had previously been under the care of Mr. Curling as a private patient for a slight stricture in the urethra, as well as on account of the disease of the prostate. The former affection had been quite cured by dilatation, and the urethra admitted with ease a full-sized instrument. The enlargement of the prostate gland was so considerable that the patient was never able to empty the bladder, a pint of urine at least being always retained.

For some weeks previous to his admission the desire to pass water was very frequent, and attended with pain, and the patient occasionally passed a few drops of blood. These symptoms were referred at first to the enlargement of the prostate, but as they rather increased Mr. Curling made a careful examination of the bladder, and after much search detected a stone lying on the right side of that viscus. The patient being in necessitous circumstances, and unable to obtain the proper attention at home, readily consented to come into the London Hospital, to undergo operation. As the bladder was remarkably capacious, apparently healthy, and little disturbed by the instruments introduced; and as the stone was of moderate size, Mr. Curling determined to attempt the crushing of the calculus, though prepared to expect considerable difficulty in removing the fragments and detritus.

On sounding the patient in the ward, there was a good deal of difficulty in detecting the stone. When he was placed on the lithotrity-table for the first time, similar difficulty was experienced, and Mr. Curling did not succeed in seizing the foreign body. On the second occasion, however, the shoulders being much depressed by lowering the bedstead, the stone was detected in the same situation as before—viz., on the right side of the bladder; it was twice seized and crushed.

Some fragments were brought away between the blades of the instrument, *without injury to the urethra.* These, on examination, showed the stone to be composed of oxalate of lime. Scarcely any vesical irritation followed the operation, *but not a particle of the stone was subsequently voided with the urine.* A full-sized catheter was repeatedly introduced, but no calculus matter passed off with the water. A fortnight after the operation, the lithotrite scoop was introduced, and several fragments crushed and brought away. This operation was frequently repeated, at intervals of a week or a fortnight. The spot where the calculus matter was lodged being well ascertained, and always the same, no further difficulty was experienced in seizing the detritus.

The instrument when carried to this spot felt at first as if passing into a soft mass of gravel or small stones. The only occasion on which any calculus matter was voided by the urethra, was after an attack of cystitis, which followed one of the operations. A very small portion became one day entangled in the mucus, and escaped with it; otherwise, after the first operation, the whole of the calculous matter was extracted from the bladder by means of the scoop. Nine operations were required to remove the stone, and with the exception of the attack of cystitis alluded to, the treatment was conducted with very little suffering to the patient.

After having been carefully sounded, without any portion of stone being detected, or appearing in the hollow of the scoop, the patient was discharged cured June 25th, four months after admission, his general health being better than when he entered the hospital. In January, 1851, seven months after his discharge, he was free from all symptoms of stone, so that it may be concluded that no portion of the calculus had been left behind.

Malgaigne says, somewhere in his "Médicine Opératoire," that the records of a case, to be of value, should comprise at least one year after the patient's discharge; Mr. Curling's case is so far satisfactory that full six months have passed without any new symptoms of stone occurring. It must be confessed that ever so small a fragment left in the bladder may become the nucleus of a second calculus. This has frequently happened, and we shall just quote a very recent example, and one replete with instructive facts, which was lately brought forward at the meeting of the Pathological Society of London, by Mr. Henry Charles Johnson.

Here the patient underwent the operation of lithotrity at St. George's Hospital, and left the institution apparently well; but two years after he had quitted the hospital, the former symptoms of stone returned, the operation was again performed, and several small calculi broken up, but the patient died six weeks after the operation. It should be noted that he was seventy-two years of age.

One very striking point of analogy between Mr. Curling's case and that just mentioned is, that in the latter "a small pouch was found on the right of the bladder, which pouch communicated with the vesical cavity by a contracted opening, and which was filled with calculi of a triangular shape and soft consistence, formed chiefly of the phosphates." This bears much resemblance to a peculiar feature in Mr. Curling's case, thus described in the Report:—"The spot where the calculous matter was lodged, (after crushing,) being well ascertained, and always the same." It will be perceived that *none of the fragments* were discharged with the urine, Mr. Curling being obliged to remove them *all* with the lithotrite scoop. We fully agree with Mr. Charles Hawkins, who spoke at the meeting above mentioned, "that it is not necessary to attempt the removal of a stone by the scoop; but in such exceptional cases as the present, when the enlarged prostate offered no inconsiderable difficulty to the passage of the detritus, and the latter formed "a soft mass of gravel, or small stones of the bladder," there was no choice left.

The termination of the present case ought to be looked upon as particularly fortunate, as the mortality after lithotrity is not in the least encouraging. Look at the state of the bladder in one of the cases brought before the same meeting of the Pathological Society by Mr. Pollock. "The bladder was much contracted and thickened; its lining membrane thrown into irregular folds, which were slightly coated with phosphate of lime; the mucous membrane greatly inflamed, and that lining the membranous portion of the urethra sloughy and shreddy; small ulcerated openings passed a little way into the surrounding cellular tissue; the bladder contained numerous fragments of calculi. The prostatic veins were inflamed, and blocked up with coagula, &c." In the second case the autopsy revealed the following changes:—"Veins surrounding the bladder, prostate, and rectum, congested, and many of them filled with pus; a foul abscess in the perinæum communicating with the urethra at the membranous portion, through several openings. The bladder contracted. The mucous lining dark coloured; some fragments of calculi in the bladder. The membranous portion of the urethra was ulcerated, and communicated with the abscess in the perinæum. Mr. Curling was likewise peculiarly fortunate in avoiding lacerations of the urethra, either when he "brought away some fragments between the blades of the lithotrite without injury to the urethra," or "when the lithotrite scoop was introduced, and several fragments crushed and brought away;" for it would appear that subsequent impactions are generally owing to lacerations of the urethra. Mr. Pollock very justly observes: "In this operation every precaution should be taken to avoid injuring the urethra when the lithotrite is withdrawn from the bladder."

The subject of lithotrity is one of vast importance; we shall soon have to recur to it, as we lately witnessed several operations of that kind at St. George's Hospital.

ROYAL FREE HOSPITAL.

Retention of Urine, from Injury, in a Child twenty months old; Puncture of the Bladder above the Pubis; Rapid Recovery.

(Under the care of Mr. WAKLEY.)

THE various rules of practice laid down for the management of retention of urine mostly refer to cases of obstinate stricture in adults, and the surgeon can hardly err in following such rules, especially as they have, for the most part, been framed by men whose experience and skill place them at the head of the profession. But when retention of urine is induced by an injury to some portion of the urinary organs, the mode of relief must be determined by the circumstances of the case; and when the patient, moreover, happens to be a child of very tender years, the line of practice becomes materially influenced by this circumstance.

Many of our readers will doubtless agree with us, that when the usual surgical methods come to be put in practice upon children, such methods have greatly to be modified, and these modifications are sometimes so important, that they would seem worthy of especial consideration. If an experienced surgeon would take the trouble, as we mentioned some months ago, of noting these modifications, and classifying them, he would, by such a book, render good service to his professional brethren. Of course it would be indispensable that the work were accompanied by a sketch of the anatomical and pathological peculiarities of children, in reference to surgical affections. The case before us, for instance, where Mr. Wakley succeeded in warding off a fatal termination, by timely surgical interference, offers a good proof that the desideratum we have just mentioned is not an imaginary one, for the following question opens a wide field of inquiry: How is a young child, of the male sex, likely to be affected by a fall on the perinæum? The same accident, in the very young and adult, is probably followed by consequences of a different character. This will appear pretty evident by the following very instructive case:—

The patient is a little boy, twenty months old, who was brought by his mother to the hospital with complete retention of urine. The countenance was full of anxiety, the eyes were staring with a confused expression, the limbs motionless, and the pulse 115, weak. On being questioned as to the cause of this sad state of the child, the mother stated, that two days previously, the little boy had fallen down an area, the perinæum coming in contact with the ground; the patient did not at the time seem much hurt, but he had not passed any urine since the accident, with the exception of a few drops soon afterwards. On examining the pubic region the bladder was found intensely swollen, reaching high in the abdomen and feeling tense and unyielding. The penis was about six times the normal size, much inflamed, and with an angry black spot on the left side of the greatly distended prepuce.

Mr. Robertson, the house-surgeon, immediately attempted the introduction of a small gum-elastic catheter, but from the œdematous condition of the part he could not succeed. The child was then placed in a warm bath, and the usual auxiliaries were employed, after which another attempt at catheterism was made, but unsuccessfully. Mr. Wakley was now sent for, and seeing the condition of the child he made several careful attempts to introduce an instrument. The catheter would with great difficulty pass as far as the commencement of the prostate gland, but here it seemed to press against some soft mass, and would not enter the bladder. Mr. Wakley ordered the child to be kept very quiet, and having returned to the hospital in about two hours, again tried to relieve the bladder by means of the catheter, but could not succeed.

The child was now quite insensible; the respiration rapid and laboured; the pulse 125, very weak, and almost imperceptible. Mr. Wakley therefore considered that no more time should be lost in attempts to render the urethra pervious, and determined to puncture the bladder above the pubis. A glance at the situation of the child will show that the pubic operation was almost the only one which could be selected. As there was no stricture, there existed, of course, no distended membranous portion of urethra which could conveniently be punctured, and as for the rectum, the "soft mass at the commencement of the prostate gland," which stopped the catheter, was no encouragement to resort to the rectal operation.

Mr. Wakley, therefore, punctured the bladder over the pubis in the usual manner, assisted by Mr. Robertson: a very considerable quantity of high-colored offensive urine was drawn off, and the canula kept in its place by a bandage running round the waist. The sequel will show that leaving the canula in the wound was not productive of any inconvenience, but, on the contrary, followed by the best results. The elastic catheter is recommended by some surgeons, but the urine has been know to pass between it and the wound, and excite inflammation in the peritonæum. A large poultice was placed over the abdomen and perinæum, and the child carefully placed in bed.

In the evening the little patient became concious and restless for two or three hours, but he soon fell asleep, and slept nearly through the whole night. The canula was kept in the bladder for three days, and the urine drawn off at intervals. After this period a catheter was easily introduced into the bladder, and the canula, being now no longer required, was withdrawn. The wound healed very rapidly, the urine continued to flow through the urethra, and in eight days the child left the hospital.

Mr. Wakley stated that he considered the little patient had received a severe injury to the neck of the bladder and prostate gland by the fall into the area. The accident had, in all probability, induced paralysis of the urinary receptacle, and an œdematous condition of the prostate, as well as of the parts surrounding the latter; these circumstances altogether preventing the introduction of the catheter, as also the passage of the urine through its natural channel. Mr. Wakley likewise remarked that there was but little doubt, had he hesitated to adopt the means above described, that the child must evidently have sunk.

Hydro-Sarcocele.

(Under the care of Mr. GAY.)

Chronic enlargement of the testicle does not now, as of yore, entail upon the patient the loss of the organ, and attempts are generally made, according to the advice of Sir Astley Cooper and Cruveilhier, to obtain the absorption of the fibrinous deposits on the tubes by the administration of mercury. The disease is, however, with some subjects, of so tenacious a description, the morbid process seems endowed with such an activity, that not only mercury, but likewise iodine, will fail to arrest the disease or to remove its effects. Castration is certainly a severe measure; but when the above remedies have been tried in vain, it is high time that one testicle should be sacrificed, as the sound organ is in great danger of suffering like the affected one, when the latter is allowed to continue for a long time in the scrotum in a disorganized state.

Such contamination has been exemplified in an instructive manner, in a case lately under the care of Mr. Gay, in which the right testicle was in some degree rescued from sharing the fate of the left by the timely removal of the latter. It would thus appear, that the highly-to-be-praised unwillingness of the surgeon, of too hastily having recourse to operations, should not be carried too far; this great dislike for proposing the removal of diseased parts being in some degree a reaction, after our forefathers had gone to the extreme of wholly or partially castrating their patients for various affections of the testis. The beneficial effect produced upon the remaining testicle by the removal of the diseased one was doubly manifest in Mr. Gay's patient: this will become apparent by the sequel, and we hasten to give a few particulars of the case, assisted by the notes of Mr. Lane, the house-surgeon *pro tem.*

The patient, a pallid-looking man, twenty-one years of age, of dark complexion, spare make, and by trade a watchmaker, was admitted in August, 1850, under the care of Mr. Gay, for an affection of the testicles. At that time the left organ was considerably enlarged, very hard to the touch, and painful; the right had also suffered some tumefaction, and the patient was in a very low state of health, characterized by extreme weakness. On inquiry, the following history was elicited.

The patient had an attack of gonorrhœa so far back as six years previous to his admission; this was followed (according to his description) by orchitis, which yielded to an antiphlogistic treatment in about eight weeks. Matters went on very well until about four years since, when the patient had a fall, and struck his testicle against a hard substance. The organ immediately swelled, and became very painful; he repaired at once to a metropolitan hospital, where he remained under treatment for five months. No relief being obtained, he went to another hospital, where, he states, the testicle was tapped, and half a pint of clear serum drawn off. The pain was soon relieved, and the organ returned to its normal dimensions.

The accumulation of fluid in the tunica vaginalis occurred, however, again and again; the serum was several times artificially evacuated, without any particular change being observed in the testicle; but on the last tapping, the organ was found enlarged and painful, considerable thickening of the epididymis existing at the same time. It was in this condition that the patient was admitted into the Royal Free Hospital.

Mr. Gay first directed his attention to the improvement of the patient's general health; thus iodine, cod-liver oil, sarsaparilla, and bichloride of mercury, iodide of iron, and iodide of mercury, were successively administered. Blisters were likewise applied to the testicle; these contributed to relieve the pain, but did not promote any diminution of size. Mr. Gay now passed a grooved needle into the tumour, but no fluid escaped; the medicines were continued for some time, and no effect being produced on the swelling, Mr. Gay advised the removal of the organ, but the patient, being rather fearful of such an operation, asked for a postponement.

Abscesses, however, connected with the epididymis, soon formed, broke, and continued to discharge a thin, sero-purulent fluid for a space of eight or nine weeks. The patient now requested Mr Gay to remove the testicle, as he became alarmed at the size the organ was assuming, it being now as large as a man's fist. The scrotum was very much distended, and a congeries of large, dark-blue veins were ramifying through its substance; the epididymis was knotted, hard, and much enlarged, the two globi being the principal seats of the induration. The whole mass contained in the scrotum could be freely manipulated without giving much pain; the tunica vaginalis, although it contained fluid, was not translucent, nor could the left testis be distinctly felt. The organ on the right side seemed in some respects similarly affected, but the testis alone appeared to be involved, and there was no fluid in the tunica vaginalis. The testis and epididymis were, on the right side, only slightly enlarged, in comparison with the left; but the hardness of such portions as were diseased was as well marked as on the other side.

Mr. Gay therefore removed the left testicle and epididymis in the usual manner, the patient being under the influence of chloroform. When the organ was examined, the mass was found composed of a peculiar fibroid tissue, which in all probability owed its existence to chronic inflammation of the part. This tissue had spread between, and had given rise to the absorption of, portions of the secretory tubes of the testis, as well as effusion into the tunica vaginalis. The latter effusion Mr. Gay attributes to the disease in the testis being produced, as other serous effusions most frequently are, by pressure on the veins. Rokitansky states, in reference to this subject, that this pressure assumes, in many cases, the character of a remedial agent, by impeding the progress of inflammation, and promoting the absorption of the new deposit. It should, however, be borne in mind, that the effused fluid may also act on the testicle itself, as well as on the morbid deposit, and thus be instrumental to atrophy of the organ.

The pain entirely disappeared after the operation, and the wound of the scrotum healed kindly and rapidly. The patient was discharged in very good condition: and a circumstance, rather remarkable in his case, and to which we alluded in our introductory remarks, was the following: from the time when the testicle became affected he had lost all desire for sexual intercourse; but a fortnight after the operation this gradually returned, the right testicle becoming at the same time of natural size and firmness. The patient, who has been seen very recently, is enjoying perfect health, and the functions of the remaining testis are unimpaired.

Stricture of the Urethra: Cases of Stricture treated by Mr. THOMAS H. WAKLEY *with his New Instruments.*

Stricture of the urethra is one of those affections which are apt to create much anxiety in the minds of the patient and the surgeon, and it is no wonder that some of the best heads in the profession should have paid particular attention to the improvement of the methods of treatment hitherto employed, as the results usually obtained are so often unsatisfactory. We have for some time past endeavoured to bring before our readers a series of facts gathered from the surgical practice of the metropolitan hospitals, likely to set in their true light the value of some of the modes of treatment which have of late been strenuously advocated and opposed; we shall continue faithfully to record facts, and let our professional brethren deduce from them the amount of confidence which should be granted to the innovations which are introduced into this branch of surgical practice.

The plan which we most frequently see adopted is gradual dilatation; as to potassa fusa, division of the stricture within the urethra, or the same division through the perinæum, they are but seldom used in the hospitals of London. We should mention, however, that the urethra is pretty frequently opened through the perinæum; but this practice is enforced only in obstinate retention of urine, when no instrument can be passed into the bladder along the canal of the urethra. The catheter is then left in the wound, and the stricture dilated when the parts have returned to a quiescent state.

We have not noticed that dividing the urethra through the perinæum upon a grooved staff is often practised for the cure of stricture, the surgeons of the London hospitals trusting to gradual dilatation rather than to Mr. Syme's method, when once they have succeeded in passing an instrument, be the latter ever so small. Whether Mr. Syme's plan will take root in the course of time, it is difficult to say; but from what we see and hear, it is not likely that the knife will ever get much in favour, and there are, to all appearance, many surgeons here who consider that every measure which *dispenses* with the knife is a great advance in surgery.

Such an advance has lately been made by Mr. Wakley; for he has devised instruments which will, *cito tute et jocunde*, bring about a sufficient dilatation of the urethra without the use of caustic or cutting apparatus, provided a very small catheter can be made to pass into the bladder. We visited the Royal Free Hospital on the 7th instant, when Mr. Wakley gave a clinical demonstration of the action of the new instruments upon a series of patients affected with strictures of various kinds, and we were particularly struck by the ease with which the dilatation was rapidly effected from No. 2 up to No. 10.

Before giving any details connected with individual cases, we shall just attempt to sketch the principle upon which Mr. H. Wakley's instruments are constructed, referring our readers for full particulars to the report of the meeting of the Medical Society of London, when these instruments were exhibited.

The idea which seems to have been uppermost in Mr. Wakley's mind when he planned these instruments was, that the advantage once gained over a stricture should not be lost again, and that a urethra which admits ever so small an instrument should *infallibly* be brought, without the slightest risk or pain, to such a diameter as to allow easy micturition. His view evidently was, that the ground gained should not be lost over and over again, as commonly happens with the ordinary method of dilatation by bougies or catheters; but that the urethra should be kept under subjection, and be made to yield in a gradual manner to instruments, the size of which should increase by delicate gradations of an exquisite workmanship.

How often does it not occur that No. 2 or 3, after having been once passed into the bladder with much nice management, and withdrawn, cannot again be made to run along the same route? This untoward circumstance cannot prevent success with Mr. Wakley's instruments, as the index-rod at first, and the elastic catheter afterwards, keep the urethra constantly permeable.

The first patient we saw was a man about forty years old, who had had stricture for two years. He had been for some time under the usual treatment before he placed himself under the care of Mr. Wakley, and nothing larger than No. 1 had been passed. The patient had now had his urethra dilated two or three times by the new instruments, and was remarkably improved. Mr. Wakley on this occasion first passed the directing catheter, (this is the size of No. 2, and is intended for the reception of the steel rod, the two combined forming *the index-rod or director* for the metallic and elastic tubes.) The directing catheter is extremely useful, even before the rod is passed, as showing, by the appearance of urine at the stem, that the bladder has undoubtedly been reached. The steel rod was then introduced within the catheter, this rod making an addition of about five inches to the length of the instrument; several tubes up to No. 7 were then gradually guided over the index-rod, whilst the latter was depressed so as to straighten the urethra, the whole process giving the patient no pain or uneasiness. No. 7 elastic tube was passed up, after the canal had been sufficiently dilated by the silver tubes, the rod withdrawn, and the elastic canula left in the bladder.

This latter instrument is made of flexible metal, covered with elastic gum, and can be left in the bladder for several days, without causing any irritation. This patient had generally kept the instruments in the bladder for three days; he now passes urine in a good stream, and is leaving the hospital after thirteen days' treatment.

The second case is that of a man about thirty, who has suffered from stricture for several years. The urethra is so blocked up that he can pass but "half a pint of urine in four hours." The patient had had the new instrument applied but once before, and though it had always been difficult to introduce an instrument, the guiding catheter was now easily passed, and the rod being placed within the same, the silver tubes glided successively upon the index-rod up to No. 10; the elastic tube was finally passed, but it was not left in the bladder, as the patient was already so much improved as to render this precaution unnecessary.

The third case presented a very old stricture, in a man of about forty years; there was a little difficulty for the passage of the guiding catheter, but gentleness and management at last overcame the obstacle, and No. 6 elastic tube was finally left in the bladder.

The fourth case referred to a young man whose stricture was only of three months' standing; both index-rod and tubes had been passed several times before, and the present proceedings—viz., the introduction of No. 8 tube in the same manner as in the other cases—was considered by Mr. Wakley as having now accomplished the cure.

Two or three other cases were successively treated in the same manner as described above, some just commencing the treatment, others on the point of being discharged; and the impression of the numerous surgeons present was, that Mr. Wakley's new instruments would effect a great improvement in the treatment of stricture.

Whilst on this subject we should not omit to mention, that M. Civialo advocates, in a late work, ("De L'Urétrotomie," 1849,) dividing the urethra by sharp instruments, either from without inwards, or from within outwards, (in the latter instance from behind forwards,) according to circumstances, or the nature of the stricture. He does not, however, deceive himself as to the danger accompanying these operations, and places the risks under the following heads:—1. Hæmorrhage; 2. Pain; 3. Irritative fever; 4. Ecchymosis; 5. Local Inflammation and tumefaction, with or without discharge; 6. Infiltration of urine; 7. False passages; 8. Inflammation and abscess in different parts of the body; 9. Death.

ST. GEORGE'S HOSPITAL.

Compound Fracture of the Femur extending into the Knee-joint; Secondary Amputation; Death.

(Under the care of Mr. Tatum and Mr. Prescott Hewett)

We have had frequent opportunities of pointing out how anxious a great many surgeons are, in the hospitals of London, of saving limbs whenever there is a chance of recovery. This propensity is, no doubt, very praiseworthy, and to it many a poor fellow doubtlessly owes the satisfaction of having retained the use of all his limbs. But this conservative surgery, as it has been called, should be guided by much prudence and firmness, and the desire of preserving a portion of the body should not put out of sight the actual risk to the patient's life. Nor is this all; another consideration is the more or less use which the sufferer will be able to make of an imperfect limb—according to his position in life; and the more or less suffering which the presence of diseased bone may for years entail upon him.

We have taken notes of several cases exemplifying this position, whilst visiting the metropolitan hospitals, and were very much impressed by one which we lately saw at St. Bartholomew's Hospital, under the care of Mr. Stanley. The patient, now about twenty-four years of age, had been admitted five or six years ago for a compound fracture of the lower portion of the tibia and fibula, which had implicated the joint: this injury was treated with much care, union took place, and the limb was partially restored to its former shape. But it had ever since his discharge been a source of pain and annoyance to him, both by the imperfect services it was rendering, and the constant re-opening of the cicatrix and troublesome suppuration. At last the patient applied at the hospital and requested that the leg might be removed. Mr. Stanley complied with the request, and the man has just been discharged, and is going to resume his occupation of servant at a country inn.

Another case, illustrating the foregoing remarks, is now under observation at St. Thomas's Hospital; of this we hope soon to give full details. Thus it would appear that we should not only endeavour to save the limb, but likewise consider whether life be endangered by the attempt, and whether the patient will find the preserved member a burden or a blessing. The case which we now have to put upon record is full of interest, both as regards the matter just discussed and with respect to diagnosis, and we hasten to offer a short sketch of it from the notes which were very carefully taken by Mr. Francis Day.

William D——, a labourer, aged forty-four years, a stout man of a florid complexion, and who had always enjoyed good health, was admitted under the care of Mr. Tatum, November 28, 1850. The patient was riding on the outside of a hearse, when, on crossing Putney Bridge, the vehicle upset; he was thrown under it, in what manner he could not say, as he was too much stunned by the fall to have any recollection of the particulars. He was immediately removed from under the hearse, and, on attempting to get up, he found it impossible; he also perceived that his thigh-bone protruded through his trowsers, and that hæmorrhage to a small amount had occurred.

The patient was brought to the hospital with very slight symptoms of collapse, and Mr. Tatum not being at home when sent for, Mr. Hewett saw the accident for him. On examination, a wound three inches long was observed at the lower fourth of the thigh, running in a transverse direction, and the lower end of the upper fragment of the femur was projecting externally for the extent of about three and a half inches riding over the lower fragment. The protruding portion of bone was very oblique in its fracture, and somewhat comminuted. A careful examination, as far as was practicable, was then made of the state of the lower fragment, but no fracture leading into the joint could be detected; the condyloid portion of the bone presented its natural shape; no motion could be produced between the two condyles, and little or no swelling could be made out in the joint itself. The patella appeared, however, somewhat looser than natural, but no œdema was seen in any of the parts surrounding that bone.

An attempt was made to reduce the protruded fragment, but as this failed, Mr. Prescott Hewett removed, by means of a fine saw, a portion of the projecting bone, after which measure the reduction was effected without much trouble. The finger having been passed into the wound, it was ascertained that the lower fragment was somewhat comminuted, but still there was no evidence to prove that the fracture extended into the joint, and the patella was at this time no longer looser than natural. Under these circumstances, it was determined by Mr. Tatum, who had now arrived, and by Mr. Hewett, that an attempt should be made to save the poor fellow's limb. The patient was therefore put on an Earle's bedstead, the wound lightly dressed, and some side splints adapted to the thigh.

On the fifth day, the thigh, which until then had looked well, was found to be somewhat swollen, and it presented at the upper and inner part a large dark patch, of a bistre colour, looking much like incipient mortification of the skin, but the wound itself presented nothing remarkable. In the absence of Mr. Tatum, a consultation was held by Mr. Hawkins and Mr. Hewett, when it was ascertained that there was some foul suppuration in the neighbourhood of the injury, attended with sloughing of the cellular tissue. Taking the general state of the patient into consideration, as well as the appearances about the limb, it was determined, as a last resource, to perform amputation. The patient having been rendered insensible by chloroform, the operation was at once performed by Mr. Hewett, and two incisions were subsequently made into the discoloured portions of the skin at the side of the stump. During the dressing of the wound, foul pus was observed to ooze out in small quantities, but it was not clearly ascertained whether this came from the femoral vein itself, or from the cellular tissue surrounding it.

On examining the injured parts, the following appearances were observed; lymph and pus were extensively infiltrated in the subcutaneous cellular tissue at the upper part of the limb, encroaching more on the inner and outer parts than on the anterior and posterior ones. The fractured portions of bone were bathed in unhealthy pus, and the crureus and rectus muscles extensively lacerated. Both fragments were comminuted, and in the lower one a fissure was discovered running into the joint through the intercondyloid notch. Still the fragments were so firmly held together, that no movement could be produced between them, and the only displacement which was observed was that of the outer condyle being a little in advance of the inner one. Thus these processes, instead of presenting a smooth surface at the intercondyloid groove, were marked by an uneven ridge; a small piece was chipped off from the internal condyle, but it was still firmly connected with the remainder of the bone.

In the remarks made by Mr. Prescott Hewett after the operation, he observed that compound fractures of the thigh were at all times to be considered as injuries of the most dangerous character, and the more so when they were situated in the vicinity of a joint. These cases often involved the question of immediate amputation. In the present case, no operation had been resorted to in the first instance, as the soft parts were not much lacerated, as no large vessel had been injured, and above all, because there was no distinct evidence to prove that the knee-joint was implicated. Though the fracture was a comminuted one, the fragments were not detached from the neighbouring parts, and under these circumstances, even if the case proved fatal, he (Mr. Hewett) thought that the right course had been pursued in giving the patient a chance of saving his limb, especially when it was considered that immediate amputation of the thigh is, in such cases, a most hazardous operation.

Mr. Hewett directed the pupils' attention to one point evinced by the dissection—viz., the slight ridge found in the intercondyloid groove, resulting from the partial displacement of the outer condyle, which ridge might serve as a means of diagnosis as to the extension of the fracture into the knee-joint. At the time of the accident Mr. Hewett had observed, after the reduction of the fracture, a grating sensation produced in moving the patella in its condyloid groove; but in the absence of all other proof of injury to the joint, he had attached no great importance to this fact. Mr. Hewett then mentioned that there were preserved in the museum of the hospital some preparations illustrating the splitting of the condyles of the femur with but little displacement; the actual nature of the injury not having been detected during life.

The patient towards night became very weak; he was continually retching, the effort seeming to give him much pain. Delirium soon came on, and it required four men to keep the patient in bed; he gradually sank, and died at a quarter before ten, the day after the operation.

Opium in Continued Fever.

(Under the care of Dr. Bence Jones.)

It is hardly surprising that the treatment of continued fever should not be characterized by much uniformity, as the peculiarities of epidemics will always influence the physician in the choice of the treatment, even were there more unanimity as to the means best adapted for checking the disease. Still it must be confessed that some practitioners are too eager to act vigorously, whilst others take the easy course of expectant medicine. For those who have faith in remedies, emetics, bloodletting, mercury, purgatives, or stimulants, will be fixed upon, according to the peculiar appearance of the case. Opiates are sometimes of great assistance where the nervous system is much affected—a circumstance which becomes evident by the patient's restlessness, wakefulness, &c.; and the administration of opium in pretty large and repeated doses to combat the nervous disturbance, (which is greater than the vascular excitement,) is then followed by the best effects. This remedy should, however, be used with great caution, as we learn from Dr. Latham, who has written in favour of this treatment, and says that "twenty minims of laudanum have produced a fatal coma, from which the patient has never been roused." Dr. Latham is therefore in favour of small doses, at intervals of an hour or two, "so as to stop short of actual mischief at the first glimpse of its approach; or to be led, by a plain earnest of benefit, to push the remedy to its full and consummate effect."

We have no doubt that the *careful* use of opium might be tried, with a great chance of success, in many intractable diseases, and it would perhaps not be amiss if it were employed before patients are declared incurable. We were led to direct the attention of our readers to the administration of opium in continued fever, from having seen Dr. Bence Jones employ the drug, with much success, in a case of that nature; and we are induced to bring it forward, not with the idea that one case could give sufficient support to the practice, but to adduce one more proof of the efficacy of opium in continued fever, when the latter is accompanied by great restlessness. Such proofs are certainly of great encouragement to the practitioner, as it is a matter of importance to give or withhold opium, when the head-symptoms are of an *apparently* inflammatory character. The details of the case were carefully noted by Mr. G. Hill, Dr. Bence Jones's clinical clerk.

The patient, a girl, twenty-two years of age, servant in a family, was admitted on the 30th of October, 1850. She stated that she had been in bad health for three months before her present illness came on, during which time she had had continual pain in the right side. About ten days before admission the pain shifted from the side to the anterior portion of the abdomen, when she suffered from diarrhœa, which was arrested by the usual means. On admission, the patient complained of severe pain in the abdomen, which cavity was tender on pressure, and tympanitic. The diarrhœa was less intense than it had been; the face was flushed; the countenance inexpressive; the pulse 140, jerking; skin hot and moist; tongue very red and dry; pupils contracted; urgent thirst, and severe headache. The patient had not been able to sleep for three nights; she was somewhat deaf, yet, when spoken to, answered slowly, but rationally; and the urine was abundant.

Dr. Bence Jones ordered three grains of Dover's powder and two of calomel, to be taken three times a day; the looseness of bowels being counteracted by chalk-mixture, to which were to be added, if necessary, ten grains of gallic acid. An enema of starch was likewise to be administered, if the above means failed to control the diarrhœa. The next day the pulse was 108, feeble; the bowels had been opened twice, and the abdomen was less tender; the countenance became, however, sunken; the patient was very restless during the night, and at times delirious. The medicines were continued, and the abdomen fomented. For the following three days the restlessness and delirium increased, the abdomen became very tympanitic, and the face flushed; pulse 110; the opium treatment was then begun, the patient taking two grains of camphor and half a grain of opium every sixth hour. On the sixth day a few rose-coloured spots appeared on the chest and abdomen; the pulse rose to 120, and no sleep could be obtained; the urine, though abundant, was very high-coloured; it contained a small quantity of albumen, was highly alkaline, and effervesced strongly on the addition of a little hydrochloric acid, the latter circumstance showing that the alkalinity depended on the presence of carbonate of ammonia. The camphor and opium were continued. On the seventh day the symptoms had altered very little, the opium was raised to one grain, and a few ounces of wine allowed; the fomentations were suspended on account of the fits of perspiration which they seemed to give rise to.

No improvement had occured up to the eleventh day; the stools continued to be of a black colour, but the pupils were no longer contracted. It was only on the twelfth day, that a good night's rest was obtained, but the perspiration became considerable, the pulse being still 108. On the thirteenth day the flush left the cheek, and the patient presented an anxious and sunken appearance: the wine was increased, morphia substituted for the powdered opium, and on the sixteenth day the restlessness and wakefulness were at last conquered; the patient slept well, the abdomen became less tympanitic, and the tongue moist.

A very troublesome cough now attacked the patient, and some delirium was noticed. The usual expectorants were given, and a blister raised on the chest. From this period the improvement went on steadily. Wine and quinine were liberally continued; all the symptoms gradually gave way, the nights became calm and tranquil, and on the 11th of December, about forty days after admission, the patient was declared convalescent.

There is much temptation, in cases of this description, to shave the head, use cold applications, and apply leeches; but such a course will seldom subdue *bonâ fide* irritation, and opium seems here the sheet-anchor of the practitioner. To those who would be inclined to doubt that the opium really effected the good above described, we would answer with Dr. Watson, "When some immediate change ensues in the symptoms, or in the feelings of the patient, upon the administration of remedies that are generally followed by sensible effects, we are warranted in ascribing the change to those remedies."

Abscess in the Cervical Region after Scarlet Fever; Hæmorrhage; Recovery.

(Under the care of Mr. Cæsar Hawkins.)

A fact of great interest in surgery is the power which arteries and veins possess of resisting the destructive process of ulceration going on around them. It is well known that they often remain unaffected when bathed in purulent collections, whilst other parts crumble and give way either by the pressure and acridity of the fluid, or sub-acute inflammation. Such occurrences are not unfrequently witnessed in diffuse inflammation of the cellular tissue, and a good example may be found in the bands which cross the vomicæ of a tubercular lung. Still such vessels may be attacked at last, and very troublesome hæmorrhage take place. We especially recollect in this respect a case of diseased knee in a young man of twenty-four, which had continued for more than eighteen months, with much thickening, and the formation of a series of abscesses. Severe hæmorrhage came on quite suddenly, and though stopped by pressure, it occurred again a short time afterwards to an alarming extent; the thigh was amputated, and it was found that the loss of blood had proceeded from one of the articular arteries which had given way under the ulcerative process.

Abscesses of the cervical region connected with enlarged glands after scarlatina, have a more acute character, and would not seem, *à priori*, likely to occasion hæmorrhage; still it will be noticed that these sequelæ attack subjects who have just been labouring under the effects of a morbid poison, and with whom the powers of resistance must certainly be weaker than usual. Nay, these enlargements are supposed to arise as a direct consequence of the absorption of the poisonous and irritating matter from the ulcerated throat, as is well observed by Dr. Watson, in his excellent lectures, the author adding: "There is just the same relation and dependency between these different local alterations as between the enlarged mesenteric glands and ulceration of the follicles of Peyer; between a bubo in the groin and a chancre on the glans penis." Thus it would appear that *virulent* abscesses should be treated with more caution than simple accumulations of purulent matter; and a very nice question thus arises as to the propriety of opening them early or late, or allowing the matter to make its way outwards without the interference of the lancet. In the case before us, the latter course was adopted before the little patient was admitted into the hospital, and we beg to record the case, both as an example of what *may* occur when such abscesses are left to nature, and to point out the line of practice which was adopted by Mr. Hawkins.

The patient is a little girl, six years of age, with intelligent, dark eyes, and hair of the same colour, who was admitted on the 16th of November, into the Wellington ward, under the care of Mr. Hawkins. The child had had a very severe attack of scarlet fever, which clearly must have been the scarlatina anginosa, if not maligna; she was very much reduced in strength, and had had the cervical glands on the right side much enlarged. These swellings had assumed inflammatory characters; abscesses had formed, which were allowed to burst three days previous to the patient's entrance. About three quarters of a pint of pus had escaped, along with a certain quantity of blood. On the day before admission alarming hæmorrhage set in; it lessened, however, gradually, but blood continued to ooze through the openings produced by the bursting of the abscess, and the parents brought the child to the hospital.

On examination, two small openings were found on the right side of the neck, from which blood was issuing slowly. Mr. Hawkins thought it advisable, under these circumstances, to lay open the abscess through its whole extent, and this was done while the child was under the influence of chloroform. Mr. Hawkins then found that the cavity reached from below the mastoid process almost to the first bone of the sternum, the lower part of this extensive solution of continuity being filled with coagula. The skin was of course very thin throughout; the bleeding ceased immediately after the incision and the removal of the clots; the countenance of the patient was, however, strongly expressive of distress; the aspect was pale and blanched, and the pulse feeble.

It might now naturally be asked, whence the hæmorrhage came? It would appear, from the account given by the parents, and by the subsequent manifestations, that the bleeding was strictly venous; and it can hardly be wondered at, that a few small veins of the anterior cervical regions should have given way during the inflammatory and disorganising process which the fever had set up in the neck. It is, indeed, common enough, when a large abscess is opened, to see streaks of blood in the purulent matter; and it may be conjectured that an ulceration of small veins took place in this instance on a more extensive scale than is usually the case. Another very practical question is this—Would the hæmorrhage not have taken place if the abscess had been opened early? It may, to a certain extent, be asserted that the bleeding would not have occured, or at least not in such abundance; as an early evacuation of the purulent matter would have diminished the irritation, and allowed the vessels to regain their tone. The very practice which Mr. Hawkins followed is confirmatory of our suppositions, for no sooner was the whole cavity (which latter must have rapidly become larger, by burrowing) laid bare, than the cool air had the effect of arresting the hæmorrhage. Now it is evident that a little patient, just recovering from scarlatina, is not in a condition to bear any loss of blood; and as abscesses of the kind mentioned above are not at all uncommon after this affection, the early opening of such purulent accumulations becomes a practical point of some importance, which fact will become apparent, if we take the trouble of reviewing the circumstances of this case, and the consequences which might have followed the first attack of hæmorrhage.

For the next four days the child progressed pretty favourably; she was rather fretful, somewhat disturbed by a teasing cough, and the tongue became aphthous; the appetite was, however, good, and the patient slept well. The bowels were kept regular, plenty of nourishment was allowed, and warm water dressing applied to the wound in the neck. On the sixth day the pulse was again quick and feeble; the wound did not look so healthy as heretofore; the granulations turned pale, and the margins looked inclined to ulcerate; a little blood was also noticed to have gravitated towards the lower part of the wound, and the next day a large clot was removed from the same portion of the cavity. It was supposed that the blood was issuing from the centre of the wound, and that the fluid was gradually carried downwards, the oozing being of course more copious when the child coughed. The bowels were attended to, and some wine was administered; the patient regained, in a few days, a little strength, the purulent discharge became more abundant, and the hæmorrhage entirely ceased. This latter favourable result must certainly be ascribed to the amount of tone which was re-established in the system, as the part whence the blood issued could not be subjected to much pressure, and no distinct vessel could be secured. Fourteen days after admission the child was improving rapidly; the tongue, which had long been aphthous, became clean; the face lost its former pallor; the granulations looked healthy, and the discharge of pus was abundant. At this period the parents took their little girl home, as she was so much improved, and the danger of hæmorrhage no longer imminent. We have since learned that the child has continued to progress favorably, and is almost well.

Scarlatina is, unfortunately, but too common a disease; its complications are numerous, the manifestations about the throat and neck being the most frequent; hæmorrhage, however, is more rare; we therefore thought of serving a useful purpose in bringing this case before our readers.

ST. BARTHOLOMEW'S HOSPITAL.

Efficacy of Cod-Liver Oil in arresting the Symptoms of Phthisis.

(Under the care of Dr. Burrows.)

Few remedies have of late been more extolled than cod-liver oil, and few, we may add, have caused so little disappointment as this valuable therapeutic agent. When it is considered how extensively it is used, it will be conceded that it must be very effectual, since it is keeping its ground in a very remarkable manner, though employed in thousands of instances. According to all appearance, cod-liver oil is not one of those ephemeral remedies destined to shed a doubtful light for a very short time, and be consigned to oblivion; but it is very likely to take rank in our pharmacopœia on the same footing as quinine, mercury, and iodine.

The services which the oil has rendered and will doubtless continue to afford in the destructive disease which it is intended to combat, have been very forcibly set forth by a physician who has used it largely. Dr. C. J. B. Williams states, in the *London Journal of Medicine* (Jan. 1849, p. 12):—

"The results above stated give to cod-liver oil, even as a tardative or palliative in phthisis, a rank far above any agent hitherto recommended, whether medical or regiminal. I have made extensive trials of several other medicines of reputed utility in this disease, and on a future occasion may lay before the profession the results of my experience, which prove some of these agents to be by no means inoperative and useless; and I still consider them to be often salutary aids in the treatment of this formidable malady, but their utility and harmlessness fall so short of those of cod-liver oil, that I regard them now chiefly as subsidiary means, and the more likely to be useful in proportion as they facilitate the exhibition or continuance of this superior agent."

We were lately very much interested by two cases in which Dr. Burrows prescribed the oil, and where this medication proved very successful; it will be perceived by the details which we subjoin, what kind of symptoms induced Dr. Burrows to employ the cod-liver oil, and from these it will be readily understood that it is with good reason that this remedy is now so largely prescribed.

Case 1.—Edward D——, aged six years, a sickly, delicate-looking, much emaciated child, was admitted into John ward, Dec. 9, 1850, under the care of Dr. Burrows. When first seen, he was lying supine, breathing hurriedly, the ala nasi dilating, and his face and lips slightly dusky; skin hot and dry; pulse 132, somewhat sharp, but very easily compressible; tongue clean and moist, with generally increased redness, more especially at the apex; the bowels reported regular; urine natural; appetite good, and without undue thirst.

When questioned closely, he allowed of no feeling of pain or other discomfort, though coughing frequently, and displaying some peevishness of manner. A closer examination showed the movements of the thoracic parietes, on inspiration, to be confined almost wholly to the right side. The left side, which at the lower part was slightly bulging, (the intercostal spaces being effaced,) was motionless, or nearly so. *Percussion*, both anteriorly and posteriorly on the left side, indicated a most positive dulness throughout, and this was the case in whatever position the patient was placed. On the right side percussion showed undue resonance in the upper half, some impairment of it below, and these physical signs were again obtained in a more marked degree posteriorly. *Auscultation* on the left side, anteriorly, in the infra-clavicular and upper part of the mammary and axillary regions, yielded feeble inspiration and loud bronchial expiration, this soon becoming feeble thence downwards; and below, total absence of any sound whatever, even the cardiac sounds being absent, and discoverable only *to* the right side of the sternum. Posteriorly the same sounds were heard in the corresponding regions, only near the spine was there some feeble and distant vesicular murmur to be perceived. On the right side, anteriorly and posteriorly, there was noticed above, an exaggerated vesicular breathing; below, rhonchus, sibilus, and some crepitus. The vocal vibration was perceptible to the hand on the left side, and to the ear various modifications of bronchophony presented themselves.

A *very imperfect* history, obtained from the father, taught that up to, and prior to admission, the patient had been *apparently* healthy and active, never seriously ailing, and quite free from cough; that about that time he had been suddenly seized with rigor, acute pain in the left side, cough, and dyspnœa. The pain had been quickly removed by a blister and some general treatment, but cough with some dyspnœa still remained. About a fortnight back his bowels became relaxed, his appetite indifferent, the cough and dyspnœa more urgent, and the latter symptoms continuing to advance, he was brought to the hospital.

Dr. Burrows ordered a blister to be raised under the left mamma; one drachm of infusion of digitalis, and ten grains of acetate of potash, in half an ounce each of Mindererus' spirit and dill water, every sixth hour. Milk diet and rice. On the fourth day after admission the patient's general symptoms were much the same, though rather improved than otherwise. The physical signs obtained from auscultation and percussion were as follow:—Left side, in infra-clavicular region, inspiration less bronchial, expiration more blowing than tubular; there is some rhonchus and distant crepitus in this region; otherwise the sounds remained stationary anteriorly, but posteriorly Dr. Burrows remarked the dulness of percussion, even when the patient was placed in the semi-erect posture, to be greater about the scapular region than along the spine at the root of the lung; and considered this, together with other general symptoms, as rather indicating consolidation of the upper lobe of the left lung, probably from tubercular deposit. Acting on this supposition, Dr. Burrows ordered a more nutritious diet, continuing the use of the diuretic draught.

On the sixth day the patient was becoming even more peevish; he coughed much and frequently through the night; his appetite, however, remaining good; his bowels regular; pulse lowered to 124; very feeble. The physical signs from ausculation and percussion showed the slow absorption of the fluid, the diminution of which allowed to become apparent a very blowing and prolonged expiration with much creaking and some large crepitus, almost amounting to a gurgle immediately under the left clavicle. At the sternal end of this same bone, on the right side, there was likewise heard a large crepitus. Posteriorly, on the left side and above, the inspiration is bronchial, the expiration prolonged and blowing; when the patient coughs, a deep-seated gurgle is perceptible. Percussion at the sternal end of the left clavicle gives a decided box-like resonance, and very firm percussion the "cracked pot" sound. There is still little or no motion of the left side on inspiration, although the upper intercostal spaces are becoming apparent.

On the eighth day, there was with the cough a scanty expectoration of a very puriform character. Ordered, haustus quinæ disulphatis unciam* bis en die. On the fifteenth day, the patient's general health was fast improving, and with it the signs derived from auscultation and percussion becoming less ominous. They were as follow:—anteriorly, left subclavicular region; freer respiratory murmur, still with much crepitus; in the mammary region, more distinct vesicular murmur is now heard. Right subclavicular region: respiration puerile, without crepitation. Posteriorly, on the left side and above, more healthy vesicular murmur, with less crepitus; below, with ordinary respiration no sound can be heard, and on deep inspiration, healthy vesicular murmur. Posteriorly, on the right side, free vesicular murmur throughout; the heart sounds were heard loudest on the right side of the sternum, but they are now heard also in their normal region. On December 30th, being the twenty-second day after admission, Dr. Burrows ordered a drachm of cod-liver oil to be taken three times a day. On the 8th of January, 1851, the patient was reported to be rapidly gaining flesh and strength; he is free from cough, or nearly so, and without expectoration; the left side still takes but little part in the respiratory movements. Auscultation and percussion give for the right side quite a normal result (the breathing puerile.) On the left side, anteriorly in the subclavicular region, there is much more vesicular murmur (coarse in character) and scanty large crepitus. Posteriorly, the same sounds are elicited, and the blowing expiration has disappeared. In the inferior portion of the lung there is still no sound audible with ordinary respiration; on a deep inspiration, however, there is a good, though distant vesicular murmur. From this time the oil was increased to two drachms three times a day, and the patient was discharged on the 10th of February, two months after admission, very fat, and in a satisfactory condition.

Dr. Burrows, in directing the attention of the pupils to this case, remarked, that the special interest connected with it arose, first, from the abundant pleuritic effusion of recent date causing so little apparent distress, and being unaccompanied by any febrile symptoms; second, from the rapid subsidence of the effusion under the influence of counter-irritation and diuretics; and then the detection of physical signs at the upper part of the left lung, which led to the opinion that it was consolidated independent of the compression by the previously effused fluid. The constitutional symptoms, the puriform character of the sputa, and the existence of large crepitation in the upper lobe of the left lung, led to the suspicion that there was tubercular disease of that organ.

Third, the case was instructive because all the last-mentioned symptoms and physical signs steadily and speedily disappeared when the patient was under the sustaining influence of cod-liver oil. Whether the disease in the upper lobe of the left lung were tubercular or not, the cod-liver oil appeared to sustain the boy's constitutional powers; process of reparation proceeded with great rapidity in the lung, and the general nutrition of the body improved to a corresponding extent under the influence of this valuable remedy.

Case 2.—(Notes by Mr. Yates, clinical clerk.)—Joseph F——, aged nine years, was admitted under the care of Dr. Burrows, on the 19th of December, 1850. He was suffering from an attack of diffused bronchitis, indicated by the following physical signs:—Throughout the left side posteriorly there was a good deal of rhonchus and sibilus, with some crepitation and occasional creaking; on the right a little rhonchus and sibilus all through the lower third; general resonance in both lungs anteriorly and posteriorly. The symptoms present were, considerable dyspnœa, frequent cough, and the expectoration of viscid transparent mucus mixed with air bubbles.

Dr. Burrows ordered four leeches to the sternum, and one-eighth of a grain of tartar-emetic in water every fourth hour. The patient's mother stated that he had been quite well up to five days ago: he was then attacked with shivering; on the following day he had considerable catarrh with coryza, and on the succeeding day the cough and other bronchitic symptoms had appeared.

On the fifth day after admission the cough was less troublesome; the sputa were more easily expectorated, and consisted of viscid, frothy mucus. *Auscultation* posteriorly; free, puerile respiration throughout the right lung: in the lower half of the left lung, diffuse, large crepitation; in the upper half, breathing coarse. *Percussion* clear everywhere, except at the base of the left lung, where the resonance was impaired. Continue the medicine.

On the seventh day the patient had very slight cough, and scarcely any expectoration. On *auscultation*, the respiratory murmur on the left side was quite free, and without morbid sound; in the right scapular region, bronchial breathing; infra-scapular, respiratory murmur not so free and natural, and attended by occasional crepitation. *Percussion:* Resonance impaired in the right scapular region; elsewhere normal. Throughout the sternal half of the right subclavian region there was bronchial breathing, with distinct but deep-seated crepitation; dull sound, on percussion, in the latter region. Dr. Burrows ordered a blistering plaster to be placed under the right clavicle, and ten minims of ipecacuanha wine, five grains of nitre, and half an ounce of cinnamon-water, to be taken ex aquâ every sixth hour.

On the thirteenth day the boy looked delicate; cough troublesome, but without expectoration; appetite much better. The mother now stated that her child had lost flesh very rapidly by this illness. *Auscultation:* On the left side, respiratory murmur quite free and normal; on the right side, and below, rather feeble. Upper half of the scapular region; breathing bronchial, and attended by some crepitation. *Percussion:* Rather dull sound along the inner half of the spine of the scapula. Right subclavian region; bronchial breathing, with some crepitation, (less distinct than before,) and prolonged expiratory sounds. Dulness on percussion along the sternal half of the latter region. One drachm of cod-liver oil was now prescribed to be taken three times a day.

On the 6th of January, 1851, being the nineteenth day after admission, the patient's appearance was much improved, his strength daily increasing, and the cough entirely gone. On *auscultation*, some crepitation was heard immediately beneath the sterno-clavicular articulation, on the right side; expiratory sounds still heard, though much less distinctly; slight dulness on percussion in this region. Along the inner third of the spine of the scapula, on the right side, some crepitation attended the respiratory murmur, and there was slight dulness on percussion. Elsewhere, vesicular murmur, and percussion normal. Continue the cod-liver oil.

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* One grain of quinine, and one minim of (dilute) sulphuric acid to one ounce and a half of cinnamon water.

On the twenty-fourth day the boy had remarkably improved; he was entirely free from cough, having for the last week been on meat diet. On *auscultation*, the vesicular murmur was found clear and perfectly natural through both lungs; still there was a slight coarseness in the murmur immediately beneath the right sterno-clavicular articulation, and also at the base of the spine of the scapula, but without any impairment of the resonance on percussion. The boy was discharged convalescent on the 14th of January, not quite one month after admission.

Dr. Burrows pointed out to the pupils that this case of bronchitis might be appended to the preceding, as affording further confirmation of the influence of the cod-liver oil in removing the symptoms which lead to the suspicion of limited tubercular disease of lung. In the case just reported, when the bronchitis had been subdued by depletion and antimony, there were detected physical signs in the right subclavian and scapular regions, which justified the suspicion of tubercular infiltration of the upper lobe of the right lung. Under the influence of counter-irritation and cod-liver oil, those signs gradually disappeared, so that at the time of the patient's discharge there merely remained a coarseness of respiratory murmur in the upper lobe of the right lung, where, three weeks previously, physical signs had been detected, which, under ordinary circumstances, would have indicated advancing tubercular disease.

Our readers will perceive that we have (contrary to our plan) given minute details of the physical signs elicited; but it was necessary that it should exactly be determined *what kind* of pulmonary lesions the cod-liver oil has the faculty of modifying.

KING'S COLLEGE HOSPITAL.

Occlusion of the Vulva after Measles.

(Under the care of Mr. FERGUSSON.)

THE exanthemata, when severe, are followed by sequelæ of such a description as sometimes to interfere materially with various functions; thus we have discharges from the ear after scarlatina, and more or less deafness, cicatrices on the cornea after small-pox, and partial blindness, &c. In a case which we published last week, lupus, of a very destructive kind, followed upon an ulcerated throat accompanying scarlatina, and we have now to record a rather unusual effect of an ulceration connected with measles—namely, a complete occlusion of the vulva. It will at once be apparent how inconvenient must be such an occurrence, and how earnestly we should strive, when ulceration has attacked an inlet or outlet of the body, to forestal its occlusion.

The patient is a little girl, six years of age, who was admitted some months ago into Victoria ward, under the care of Mr. Fergusson. The labia majora had quite united, and presented, instead of the opening of the vulva, a linear cicatrix, the escape of the urine taking place through a fistulous opening in front of the anus, of which latter there was some prolapse. The mother stated, that at the beginning of this year, the child had been attacked by the measles; towards the fifth day, the little patient had complained of soreness about the generative organs, which presented, on being examined, clusters of raised vesicles. These became more and more numerous, enlarged, coalesced, and at last burst, leaving a raw surface, from which an abundance of purulent matter was secreted. Through incomprehensible neglect on the part of the friends, no medical man saw the child until one month after the disappearance of the measles. Ulceration had then set in, and sloughing was commencing. According to the statement of the mother, which, however, seems hardly credible, the parts were poulticed for ten weeks, and continued all that time in a sloughing state. The little patient was then made to dress them with a white ointment; the ulcerated labia began to granulate, cicatrization came on, and during that process adhesion gradually took place between the opposed surfaces of the vulvar opening.

When the child was admitted, it was observed that the labia majora were completely united, and that the urine was habitually evacuated through the fistulous aperture above mentioned. Mr. Fergusson considered, after the patient had been in the hospital for a little while, that she was in a favourable state for the division of the cicatrix, but that great care would be required to preserve the internal parts from injury. It was likewise clear that after the operation the labia would have to be kept very carefully separated, so as to prevent adhesion from taking place again. The child having been brought into the theatre and placed under the influence of chloroform, Mr. Fergusson first passed a bougie through the fistulous opening, and obtained by this means a tolerable idea of the state of the parts within; the occlusion seemed to be confined to the vulva. A director was therefore introduced into the same fistulous opening, and upon this instrument the cicatrix was divided from below upwards along the line of union. The hymen was found perfect, very little blood was lost, and a piece of lint being placed into the wound to guard against union, the child was removed.

On the night after the operation the patient had some difficulty and pain in passing her urine, but this subsided partly on the second day; on the fifth the pain on micturition had disappeared, and the wound looked well. The child was discharged about one month after the division of the vulvar adhesions, the labia majora being somewhat separated, but having, in spite of the best efforts to keep them distinct, formed some connexion above and below.

Such a case as the present is well calculated to render very cautious those who have to treat the diseases of the young, as occlusions of this description are very apt to occur where any of the natural apertures are attacked by intense inflammation and subsequent sloughing. Dilating means and every precaution to prevent abnormal union should, therefore, steadily be used whenever practicable. But the best efforts of the surgeon are too often rendered nugatory by the neglect and carelessness of the parents, who, unconscious of the danger the child is incurring, allow surfaces to heal and unite without going to the trouble of watching the patient and trying to prevent such an untoward event. It is worthy of remark that two very opposite states are apt to give the surgeon a great deal of trouble—viz., a fistulous opening communicating with some canal or cavity, and an abnormal adhesion of a natural aperture. His endeavours to obtain the obliteration of the former, particularly in the perinæal variety, are very often foiled in the most provoking manner; and he is sometimes as unfortunate in his attempts at preventing an abnormal union of parts. On the one hand, he wants cicatrization and cannot obtain it; and on the other, he wishes to prevent it, and it takes place in spite of him. Nor have these facts been lost sight of in practice; for the actual cautery sometimes used for the closure of fistulæ is evidently intended to bring on the same inflammation and ulceration which cause the unnatural adhesions of some normal orifices—yet the actual cautery will often fail in producing the desired effect. Could not, in some cases, advantage be taken of the peculiar propensity the tissues possess of contracting after burns, and this property, in general so troublesome, be rendered available. We leave the consideration of this to such surgeons as may come in contact with fistulous tracts which defy the ordinary means of treatment.

Fatty Tumour near the Breast.

Mr. Fergusson lately removed a fatty tumour from a female patient, the situation and size of which are well worthy of record. From Mr. Edwards's notes, we find that the patient is a widow, sixty-two years of age, who was admitted October 19, 1850. On her left breast a very large tumour was perceived, the nature of which seemed at first sight to be fatty, and the breast, from which the tumour seemed quite distinct, was compressed downwards and inwards.

The patient stated, that about *thirty years ago* she noticed a small tumour, of soft consistence, in the above-mentioned situation; it had been increasing gradually until fourteen months since, when an ulcer formed, about the size of a shilling, over a hard portion of the tumour, and this sore had from that period continued open. Before the ulcer formed, the pain was very slight, and of a pricking character, but since this event the pain had increased in severity. When examined, the tumour was found soft and elastic; it was about the size of an adult head, and reached from near the shoulder to the centre of the sternum. The patient had suffered much from giddiness, and lost the use of the right eye for the last four years; the cerebral symptoms were, however, much relieved by periodical loss of blood, which occurred to the amount of half an ounce at the time from the above-described ulcer.

As the general health was pretty good, the idea of malignancy could hardly be entertained, and Mr. Fergusson proceeded at once to remove the enormous mass. An elliptical incision was sufficient for dissecting out the tumour, which was easily detached from the surrounding parts, the breast being left untouched. On examining the growth, it was found to be a fatty tumour, in the interior of which, cysts, in various stages of development, were existing. The ulcer was surrounded by *a hard shell of bone*, a circumstance of rather an unusual occurrence in such a situation. The patient has not had a bad symptom, and will soon leave the hospital. The peculiar situation of this tumour gave it a surgical interest which it would not have presented in most other parts of the body. Growths in the immediate vicinity of the breast always require careful diagnosis, though the nature of the tumour in this case was ascertained without much difficulty.

Fracture of the Thigh.—(Mr. Wood's improved Splint.)

Our readers are fully aware what an unfortunate tendency exists in the upper fragment, when the femur has been fractured at the junction of the upper with the middle third, of being tilted forwards and outwards by the action of the psoas and iliacus muscles. Various contrivances have now and then been added to the long splint to counteract this action; one of these lately attracted our attention as used for a patient under the care of Mr. Fergusson, and introduced by Mr. Wood, the then house-surgeon to the hospital.

The patient is a man of sixty-six years, who was admitted July 25, 1850, for a fracture of the femur, situated just below the lesser trochanter. The accident had been the result of a fall caused by treading on a piece of orange-peel. The actual seat of the fracture having been ascertained, the limb was put up in Liston's long splint, another broad one being adapted to the front of the thigh, and retained by a circular bandage. Matters went on pretty favourably, when, about five days after admission, gouty inflammation, to which the patient stated he had been subject, appeared on the great toe of the injured limb. This circumstance of course necessitated the removal of the foot bandage, which was replaced by a loose flannel roller, the toe having first been wrapped up in cotton-wool.

When, a fortnight after this, the seat of the fracture was examined, no attempt at union could be perceived, and it was, on the contrary, noticed that the upper fragment was drawn forwards, and separated from the lower by the action of the psoas and iliacus muscles. This want of adaptation caused a projection in front of the thigh, about three inches below the great trochanter, which projection tilted up the end of the broad splint, notwithstanding every adjustment of the bandages. There was also, at that time, considerable shortening of the limb, resulting from the necessary loosening of the foot-roller.

In order to remedy the tilting of the upper fragment, Mr. Wood fixed a screw clamp on the side of the long splint, and made it bear on the upper end of the broad one, and the foot bandage was then again tightened, as the gout had luckily disappeared. Attention was now attracted to the lower portion of the limb, as the action of the screw was found to increase the tendency to outward obliquity of the foot, so common and troublesome with the use of the long splint. Under these circumstances, a further improvement in the apparatus was attempted: a long flat piece of sheet-iron, with two up-rights fixed in the centre, was placed, transversely, at the foot of the bed; the width between the two vertical pieces being just sufficient to admit the lower end of the splint. The latter was fastened in by an iron bolt, and this arrangemnt effectually prevented the eversion of the foot, which is unfortunately so often seen after treatment of fractured thigh by the long splint.

The limb remained perfectly easy and comfortable for about one month after it had been placed as described above, when the splint was removed, and the bones found firmly united. On close examination, a slight bend outwards was discovered at the point of union, which evidently resulted from the traction of the perinæal bandage in the same direction. This curve in the limb produced a shortening of the limb of about one inch; the limb was a little swelled, and the muscles of the thigh were rather flaccid, from disuse. Stimulating liniments soon dispersed the swelling, and the muscles increased in strength, as the limb was being cautiously used. The patient, from his extreme nervousness and long confinement, acquired very slowly the power of standing and walking with support; but about seven weeks after the accident, he could stand on the injured limb, and walk very nimbly, with the assistance of his crutches.

Popliteal Aneurism; Tying of the Femoral Artery; Recovery.

(Under the care of Mr. Partridge.)

Although the modern improvements in surgery have in some instances thrown into the shade a few of the methods of treatment introduced by our immediate predecessors, the mode of treating popliteal aneurism, first promulgated by Hunter, is still keeping its ground, in the majority of the profession. There is certainly some risk connected with the tying of a large arterial trunk, and the modern Irish school deserves much credit for endeavouring to substitute to Hunter's operation a plan of treatment which seems less dangerous to life. But if, on the one hand, secondary hæmorrhage and gangrene are possible consequences of the taking up of the vessel, compression of the latter may, on the other hand, likewise give rise to unpleasant results. In fact, we saw compression used a short time ago in King's College Hospital, when gangrene of the soft parts subjected to pressure was brought on in a case of popliteal aneurism. It is, however, but right to mention, that the patient, over-anxious to get well, screwed the apparatus rather more tightly than was safe. Cases have of late been published where the ligature answered extremely well. A late number of the *Monthly Journal* of Edinburgh brought the account of a case of popliteal aneurism, treated by Mr. Drummond, of Dundee. The patient is a man, thirty-three years of age; the ligature separated on the 31st day, and he recovered very rapidly. Mr. Drummond states that four cases of popliteal aneurism occurred in Dundee in the space of twelve years; they were all treated by the ligature, and did extremely well.

To show, however, how completely Scotch and Irish surgeons disagree on this subject, we shall just quote the remarks of the editor of the *Dublin Medical Press* on the Dundee case, and subjoin the opinion of Mr. Syme on the same disease, as published in the *Monthly Journal*. "We congratulate John Fenwick (the patient in the Dundee case) on his escape from the steel of James Drummond, (the surgeon,) and advise him to take care how he produces aneurism in the other ham while he dwells in Dundee. We hold that this risking of men's lives, to sustain the reputation of the knifemen, is not only reprehensible, but criminal." (*Dublin Medical Press*, Nov. 13, 1850, p. 312.) Mr. Syme, in the *Monthly Journal*, Nov. 1850, p. 483, condemns Sir Benjamin Brodie's commendation of compression at the Dublin dinner, gives his opinion in favour of the ligature, and adds that "pressure, however carefully and skilfully employed, must always be a tedious, uncertain, and dangerous method of treating aneurism, whilst the ligature admits of being applied so as to afford a remedy, speedy, effectual, and safe." Many of our readers will doubtless agree with us, that *both* the above-mentioned opinions are somewhat too exclusive. We now proceed to Mr. Partridge's case.

The patient is a native of Ireland, thirty-five years of age, and a skin-dresser by trade; he has lived in London eight or nine years, and was admitted, under the care of Mr. Partridge, May 6, 1850, suffering from popliteal aneurism. On examination, the tumour was found to be situated in the right leg: it was about the size of an egg, pulsated strongly, and yielded a decided bruit to the ear. It had been visible about twelve months, and could not be traced to any particular blow or injury, but had probably been caused by the action of the patient's employment, which requires him to jump for twelve or fourteen hours consecutively on the skins which are to be dressed. For the last eight months the tumour has remained nearly stationary, but during the three weeks which preceded the patient's admission, it had been painful, and increasing in size. It should be added, that the patella of the affected limb had been fractured ten years previously, and had united by ligament. His general appearance is cachectic; there has been diarrhœa, with discharge of blood, to which affection the patient had previously been liable; the skin is sallow, and slightly œdematous at the extremities; the lips blue, and the nails curved. Dr. Budd having examined the chest, upon Mr. Partridge's request, found it free from disease. The urine was not albuminous.

Astringent medicines were prescribed, and the patient kept very quiet for a few days, so that the case might be well watched previous to resorting to operation. Four days after admission the diarrhœa had been checked, and the pulsations of the tumour were less powerful, The urine was acid, and free from albumen, but presented a copious deposit of lithates. The patient complained of much pain, extending to the toes. The bowels became soon disordered again; and after this second attack had been subdued, Mr. Partridge tied the femoral artery in Scarpa's space, nineteen days after admission, whilst the patient was under the influence of chloroform, which latter agent caused him to be violently sick.

Especial precautions as to the protection of the limb by cotton wool, &c., were taken, and at four o'clock in the afternoon the comparative temperature was as follows:—The popliteal space of sound leg, 83°; that operated on, 78°; sole of foot, sound side, 85°; affected side, 77°; temperature of the trunk, 92°; pulse, 68. At half-past seven in the evening, the popliteal space on the healthy side gave 88°, and 91° on the aneurismal side; sole of the foot of sound leg, 81°; of operated side, 78°; temperature of the trunk, 88°; pulse 60. At half past eight, the sole of the foot of sound and affected sides was respectively 80° and 81°, and at this time the patient had become much excited and apprehensive; in consequence of this circumstance, the minute examinations were discontinued, and draughts of ammonia and hyoscyamus ordered. At twelve in the night, the patient complained of pain and cramp in the limb, and became very restless and fearful. On the evening of the second day, the sole of the foot was 80° on the healthy, and 75° on the affected side. On the fifth day, the patient was better and quieter, but he complained of much pain in the toes, on which were observed several faint purplish spots, the sole of the foot being at 75°.

On the ninth day, the wound had united by first intention, except over the ligature, but the gangrenous spots of the toes extended, at the same time, to the foot. On the fifteenth day, the ligature loosened and came away, and there being much pain in the foot, a belladonna plaster was ordered to be applied to it, the cotton-wool which had hitherto been used to wrap up the limb being changed for fleecy hosiery.

On the forty-first day, the gangrenous parts were beginning to separate at the inner side of the foot, there being much shooting pain. On the forty-sixth, the limb was brought to the straight position, the tumour having diminished to a solid lump, which gave the patient no uneasiness. The separation between the gangrenous and healthy parts was now marked at the base of the great toe by an ulcerating line; the pain in the foot continued severe.

On August the 14th, about eleven weeks after the operation, Mr. Partridge removed the toes, which had all but separated from the foot; a sloughy portion of the heel was likewise taken off, and poultices applied to the two places. The heel, however, became very painful, and it was thought that a portion of the bone might have taken on diseased action; but the sloughing soon ceased, and healthy granulations sprung up in the wound over the os calcis. The patient continued in tolerable condition until the beginning of December, when, about six months after the operation, the soft parts over the anterior extremity of the metatarsal bones had quite cicatrized, excepting in one point, whence a necrosed portion of one of the metatarsal bones is expected to be thrown off.

Mr. Partridge stated, in making some remarks to the pupils, that in this very instructive case he had well considered which of the two operations—compression or tying of the artery—was the best suited. He had noticed that the vascular energy of this patient was of a very low degree, especially in the skin, and the fact of the circulation being so slow made him apprehensive that the amount of compression necessary to be of any service could not be borne by the patient. Indeed, seeing the gangrene set up by compression in Mr. Fergusson's case, he (Mr. Partridge) was not inclined, considering the languor of the circulation in the patient, to run the risk of meeting with the same results, whilst inflicting, at the same time, a great deal of pain. He would add, likewise, that the subject of the case was not at all calculated by temper and habits to submit to so long and tedious a process as that of compression; he (the patient) was far too impatient and unruly to submit to such an ordeal.

But before giving the preference to the ligature, Mr. Partridge had carefully examined the patient's vascular system, as well in the chest as in the limbs: it was found in a very satisfactory state; the external iliac and the femoral arteries were by no means rigid, nor felt as if in a morbid state; the anterior and posterior tibial were watched with care, and found to pulsate well. Nor had the diagnosis been incorrect, added Mr. Partridge, as the ligature came away on the fifteenth day, and there was no secondary hæmorrhage. If he had found the vessels in an unsound state, he would certainly have tried compression. The gangrene which had followed the operation was a fact confirmatory of the opinion that the languid circulation, at first noticed and apprehended, really did exist; nor should the loss of vitality of the toes be attributed to this circumstance only; the aneurism was comparatively recent, the collateral circulatión had therefore not had time to be partially established, and was therefore very tardy in its formation after the tying of the artery.

He (Mr. Partridge) thought that the course he had pursued was the most safe and rational under the circumstances; and while on the subject of possible unpleasant results of the ligature, he would mention a case of Mr. Hodgson, where, some years ago, that eminent surgeon tied the femoral artery for popliteal aneurism. In that case the circulation was so slow in being re-established that gangrene occured from the knee downwards, and when the parts had entirely lost their vitality, the bone only being left, amputation was performed, and the patient recovered with a very useful stump.

Acute Abscess simulating Retention of Urine.

Under the care of Mr. Fergusson.

In perusing methodical works, both on medicine and surgery, a person little conversant with practice might possibly imagine that accurate diagnosis, by the attentive study of symptoms, is not a very difficult task; but a little experience by the bed-side would soon dispel such an idea. Nor is diagnosis, taken in general, fraught with so many perplexities as *differential* diagnosis. The surgeon may, for instance, come in contact with a set of symptoms which prominently belong to a particular pathological condition, and may be induced to believe that the latter is really present, whilst the real mischief is concealed; first, by the symptoms belonging to it being faintly marked; second, by the importance of the deceptive symptoms, and sometimes by an imperfect history. A case which strongly illustrates this position, and which therefore is extremely instructive, lately occurred under the care of Mr. Fergusson; the particulars, obtained from the notes of the house surgeon, Mr. Luxton, are as follows:—

R. B., aged forty years, and a baker by trade, was admitted Nov. 28, 1850, with symptoms of retention of urine. The patient stated that he had been subject to spasmodic stricture, but that he had no permanent coarctation of the canal. It appears that a week before his admission he had been exposed to wet and cold, and he found, upon endeavouring to pass urine, that he was unable to do so, from, as he describes, spasms of the lower part of the abdomen, the bowels being at the same time confined. The patient applied a bran poultice to the hypogastrium, and was then enabled to pass some urine, but he did not succeed in completely emptying his bladder. He went on in a very unsatisfactory state for about four days, when his bowels were freely moved, and a surgeon was able to pass No. 3 catheter. In spite, however, of the latter circumstances, his state did not materially improve, and he therefore applied at the hospital.

On examination, the abdomen was found distended by a tumour reaching from the pubic to the umbilical region; this tumour was dull on percussion, and tender on pressure; the tongue furred and dry; the thirst very great; pulse 108, quick, and full; and countenance anxious and sallow. The patient's urine being only voided in very small quantities, and with great difficulty, Mr. Fergusson proceeded to introduce a catheter, but was foiled in the attempt. An aperient was then ordered, and directions given for fomentations to be sedulously applied to the abdomen. The bowels were freely moved on the next day, but the patient was very restless, the urine discharged very scanty, and no sleep could be obtained. Soothing measures were continued for several days, and ammonia and dietetic support were freely given.

On the seventh day, Mr. Fergusson again endeavoured to pass a catheter, but could not succeed, and on this occasion the patient stated that on the day above mentioned (when he was seized with difficulty of micturition) he had felt, while straining at stool, something give way in the right iliac fossa; this circumstance was followed by a sharp pain extending from Poupart's ligament to two inches above the anterior superior spine of the ilium. He added that this pain had continued ever since; and on careful examination, it was found that the portion of the abdomen just named was peculiarly tender on pressure, and an obscure sense of fluctuation was noticed on the same spot. The patient now began to pass urine more freely, the superficial veins of the abdomen became enlarged, and on the finger being placed into the rectum, no bulging of the bladder into the cavity of that intestine was discovered. Micturition was soon performed with much less difficulty, and it was noticed that the swelling of the abdomen was not sensibly diminished by this improvement. The idea of retention was now altogether abandoned, and Dr. Todd was requested to examine the patient.

Dr. Todd thought that the intestines were matted together, and that some cyst had developed in the abdominal cavity, and was giving rise to the symptoms above enumerated. On December the 12th, therefore, fifteen days after admission, Mr. Fergusson made a puncture into the tumour, which procedure gave exit to a fluid of an intensely offensive odour, mixed with flakes of pus. No less than eighty ounces were evacuated, and it was noticed that a few bubbles of air escaped, when the flow of the liquid became more faint. It could hardly, however, be supposed that the air had been admitted by the puncture, as the latter was instantaneously followed by a stream of fluid, which poured out continuously. The wound was cautiously closed by strapping and a compress of lint. The patient, however, remained very faint, and gradually sank, in spite of the stimulants which were abundantly administered. He died on the 21st of December, twenty-four days after admission, and nine after the puncturing of the abscess.

On a post-mortem examination, both the recti abdominis muscles were found much discoloured; the intestines in the lower part of the abdomen were firmly matted together, and adherent to the cyst of an abscess situated external to the peritonæum. This cyst extended nearly as high as the umbilicus, as low as the prostate gland, and lay wholly in front of the bladder. The descending colon communicated with the cavity of the abscess by a small, rounded opening; the mucous membrane of the bladder was marked with incrustations of phosphatic salts, and the viscus itself contracted and thickened.

In reviewing the various features of this instructive case, we find that up to the seventh day, when the patient related a circumstance which materially influenced the diagnosis, the symptoms of retention were present —viz., apparent distention of the bladder, the escape of but a few drops of urine at a time, anxious countenance, quick pulse, restlessness, &c. Such a state of things was well calculated to deceive; but when the attention was directed to the cavity of the abdomen new difficulties offered themselves, for we need not say how many different pathological states may give rise to its distension. The cyst found after death occupied such a position (in front of the bladder) as to give rise to actual retention of urine; and thus were the deceptive symptoms explained. As no purulent matter was discharged per anum, it remains a question at what period the perforation of the colon took place. It is true that air-bubbles escaped after a greater portion of the fluid had been evacuated, but this gas may have resulted from the decomposition going on within the cyst. Thus it might be conjectured that inflammation was set up in a circumscribed spot of the external coat of the vessel by the pressure of the cyst, and that the ulcerative process had gone on after the evacuation of its contents.

UNIVERSITY COLLEGE HOSPITAL.

Congenital Inguinal Hernia; Strangulation; Operation. Death. Autopsy.

(Under the care of Mr. Erichsen.)

We had, a little time ago, occasion to record a case of congenital hernia, of the inguinal kind, which presented this peculiarity—that the communication between the tunica vaginalis and peritonæum had existed for many years without any of the viscera being displaced, or else that some portion of bowel had been for an indefinite time lodged in the canal without the patient's knowledge. The case occurred in the London Hospital, under the care of Mr. Critchett.[*] We recently observed another instance of congenital hernia, at the University College Hospital, under the care of Mr. Erichsen, offering several features of interest, which will appear in the sequel. Among these we would, however, mention at once the apparently great length of time which may elapse before any portion of the abdominal viscera are protruded through the unclosed portion of the tunica vaginalis. In the London Hospital case, it might be supposed that no protrusion took place for a great number of years; and in the one presently to be related, the hernia followed a kick on the groin when the patient was a few years old. Under such circumstances the pathologist might certainly find some repugnance in writing "*congenital hernia*," and would probably prefer saying, "hernia connected with congenital imperfection." We subjoin an account of Mr. Erichsen's case, the details of which were kindly furnished by Mr. Watkin Williams, house-surgeon to the hospital.

The patient, a married man about fifty years of age, and following the occupation of horse-keeper, was admitted December 1st, 1850, under the care of Mr. Erichsen. His health had generally been very good, though he was affected with inguinal hernia of the right side. As to the origin of the visceral protrusion, the patient stated that when six years old a boy kicked him in the right groin; this violence being followed by a small swelling in the same region, which gradually enlarged, but caused little inconvenience. At ten years of age he was made to wear a truss, as the size of the protrusion was increasing rapidly, and he has continued to wear one ever since, laying it aside at night, as is usual with people thus affected. The patient sustained no injury, nor did he notice any sudden enlargement of the tumour during all this time, until two or three days ago, when, without any apparent cause, the swelling became painful, and seemed more than usually inclined to come down. In consequence of this, he, for the first time, wore the truss at night. He had, however, always been able to reduce the hernia readily, when it came down on the removal of the truss. The form of the tumour had been for some time the same, the occasional differences referring only to size.

On the night before admission the patient went to bed about eleven o'clock with the truss on, and slept well until five A.M., when on awaking, and placing his hand on the tumour, he found it larger than usual; he at once attempted to reduce it, but without success, although he used *considerable force*. The abdomen now became painful, particularly about the umbilicus; the patient felt during the whole time great nausea; he vomited once, and at half-past six A.M. placed himself in a cab, and came to the hospital.

When first seen he was lying on the couch in the students' room, huddled up, apparently to relax the abdominal walls, moaning, and complaining of severe pain in the belly. There was much tenderness on pressure, and the pulse beat 72, very weak. On examination a large tumour was found occupying the right groin and scrotum, lying in the direction of the cord. The tumour is divided into two portions by a constriction; the lower portion lies in the scrotum, being about as big as a small cocoa-nut; the upper, about half the size, is situated on the right side of the external abdominal ring, the constricted part being opposite the latter. The whole tumour is elastic, as if partially filled with flatus. The two portions evidently communicate, as gurglings occur when either is pressed upon; this being apparently caused by the passage of a part of the contents from one division to the other, but no escape is taking place into the abdominal cavity. Neither the testicle nor the cord can be felt, and the scrotal portion of the tumour is perfectly opaque to strong light. The upper part of the protrusion can readily be drawn below the external ring, and its contents nearly pressed into the lower one. On coughing, there is an obscure impulse, but no more than can be accounted for by transmission through the abdominal walls.

The taxis was gently and gradually applied, the efforts being directed to bring the upper portion below the external ring, and in a line with the inguinal canal; this was continued for half an hour in various ways, without success, when the patient was removed to the ward, and a hot bath prepared.

In the hot bath, the taxis was unsuccessfully continued for another half-hour, the patient being at the same time quite faint. The patient was then removed from the bath, and an enema of extract of colocynth in barley-water administered; but the tumour being now more tense and more painful than before, Mr. Erichsen was sent for, and decided at once to have recourse to the operation.

Chloroform having been administered in the ward, the patient was removed, when fully under its influence, to the operating theatre, when the taxis was again gently, but unsuccessfully tried. The skin over the tumour being then drawn up in a fold, Mr. Erichsen transfixed and cut it through, leaving an incision along the line of the tumour, reaching from about one inch above the external ring to about four inches below it. Layers of cellular tissue were then carefully divided, during which process a small vessel required to be secured by a ligature. After this, several short, tight, and unyielding bands were seen crossing the tumour transversely at the point where the constriction above mentioned existed; these were the intercolumnar fibres, and Mr. Erichsen divided them one by one, the tumour being thereby made to protrude as one mass. The parts presenting were very tense, and after a little more fibrous tissue had been divided, the sac was fully exposed, and fluid could be distinctly seen beneath it. The membrane being raised by a fine hook, the sac was divided to the extent of about two inches and a half; from one to two ounces of clear yellow fluid at once escaped, and three portions of intestine protruded. Of these, one was of a light pink colour; another, dark greyish brown; and the third (situated between the two) was marked with spots of a florid red colour, as if from recent ecchymosis; to this latter was attached the vermiform appendage. A large portion of mesentery also escaped with the above-mentioned viscera. On introducing his finger, Mr. Erichsen found a firm stricture at the upper end of the wound; this he divided freely, and the intestines were returned with care into the abdominal cavity. The wound was dressed in the usual way, and the patient removed to a private ward, where, after he had recovered his consciousness, he was given thirty minims of tincture of opium. A warm temperature was ordered to be kept up in the room, and the patient restricted to barley-water.

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[*] We would here beg to introduce a remark bearing upon the practice of insurance offices. The proposer is told, that if any of his statements are hereafter found untrue, the contract will be invalidated; and in the series of questions he is asked, ‘ Are you labouring under any form of hernia?" To which he may readily answer, (as Mr. Critchett's patient would have done,) "No." But suppose a case similar to the above; the office would, of course, inquire of what disease the assured died, and hearing that it was from strangulated hernia, would demur paying the claim. Such a litigation has really occurred, and we would suggest that the validity of the contract should *not* rest on the evidence of the assured, but on the (remunerated) investigation of the usual medical attendant of the proposer, controlled, if the office think proper, by an examination carefully made by their own surgeon. No one can tell, unless a close scrutiny be submitted to, whether hernia exists or not.

At four o'clock in the afternoon, the pulse was 76, rather full, and the pain in the abdomen slight. At midnight, the pulse rose to 106, full and jerking, and the abdomen became tender on pressure; the patient lying with his thighs flexed; tongue white; skin natural; much thirst. Fourteen ounces of blood were taken from the arm; two grains of calomel, with the third of a grain of opium, given every third hour; and dry, heated chamomile flowers, in flannel bags, applied to the abdomen. The night was pretty good, but the pulse in the morning was 150, small, and very difficult to count; the respirations 42 in the minute; and the patient lay on his back or side, with the knees constantly drawn up. There was a little nausea, but no vomiting, and the bowels were not relieved. The calomel pills were now taken every hour, thirty leeches applied to the abdomen, and ice liberally given by the mouth. The patient died at seven o'clock in the evening.

The post-mortem examination was made forty-three hours afterwards. On opening the cavity of the abdomen, no glueing together of the omentum and intestine was noticed, nor of either to the parietes. There was a small quantity of a straw-coloured fluid in the pelvis, and the intestines generally, but more particularly the small, were marked with arborescent capillary injection. Near the site of the wound were found portions of intestine, recognised as those seen in the operation, about three feet in length; appeared to be more or less affected in different stages; from ten to fourteen inches of small intestines were of a dark slate colour; another portion was of a dull red; and a third much injected. The coats were throughout thickened. On tracing the inguinal canal, it was found to lead directly into the tunica vaginalis, showing the hernia to have been of the congenital kind. The sac was very much thickened, and the canal greatly widened. The lungs presented the characters of inflammation, in the first stage of pneumonia. The other viscera were healthy.

This case holds a very interesting place in the history of congenital defect in the spermatic canal; and the only question which might be raised is, whether a portion of intestine lay in that canal when the patient received the kick, at six years of age? or whether the violence caused the bowel suddenly to leave the abdominal cavity? It might be deduced, from this case, how difficult it is for the communication between the two serous sacs, the abdominal and the vaginal, to be obliterated by the use of a truss. It will also be noticed, that, as usual in the congenital malformation of the canal, the testicle was, as Sir A. Cooper states, "involved in the contents of the hernia, so as to be with some difficulty distinguished from it;" and that the protrusion occurred suddenly. That the *considerable force* applied by the patient himself had great influence on the ultimate result will readily be conceded; and many surgeons will doubtless agree with us, that such violence produces a far greater shock than a short strangulation, and the operation performed for its relief. Here we would refer to a foot-note in Sir Astley's folio work on Hernia, where he shows all the evil consequences which may arise from violent taxis. Mr. Gay, in his excellent book on Femoral Rupture, deduces, from statistical tables, that the shock of the accident causes death in the ratio of about 1 to 5; and the lesions, physical or organic, which the strangulated parts sustain, in the ratio of 1 to 2½. We suspect that the latter proportion is much influenced by the effects of the taxis, made both by the patient and the surgeon, who is anxious to avoid the chances of an operation; but the best authorities agree that the latter is not more to be dreaded, when carefully performed, than the continuous handling of the hernia.

We yield to the pleasure of quoting, for the benefit of those who may not have the work at hand, the causes of death, and the indications of treatment which Mr. Gay has deduced from carefully collected tables:—

"*Causes of Death in strangulated Hernia*:—1st. Directly: (the two causes quoted above.) 2nd. Indirectly: (*c*) Trusses, or other compression, which have the effect of thickening the neck of the sac, without obliterating its orifice. (*d*) Delay in affording relief by operation. (*e*) The injudicious use of the taxis, of (*f*) bloodletting, and of (*g*) the administration of tobacco. (*h*) The simultaneous existence of diseases in remote organs. (*i*) The operation.—*Indications of Treatment*—(*a*) Stimuli, and immediate relief—the latter by operation, if the remedies should not succeed in rousing the exhausted powers. (*b* & *h*) The early relief of the strangulated parts by operation, as soon as the judicious use of preliminary means shall have proved unavailing. (*c*) The avoidance of all unnecessary pressure on the hernial sac. (*d*) The judicious choice of a few preliminary measures, their moderate employment, and non-repetition. (*e*) The most gentle handling of the parts on all occasions. (*f*) The avoidance of bloodletting in all but those cases in which it is manifestly demanded. The abandonment of this remedy in every case where the operation will be submitted to; (*h*) a a more simple operation."

Cæsarian Section.—Now that this operation is being warmly discussed at the Medico-Chirurgical Society, the following extract from *La Presse Médicale de Bruxelles* may be interesting:—"A woman, who had already borne several children, had just been delivered by the Cæsarian section with complete success. The patient, who lives at Anendonk, in Belgium, was attending to her household affairs on the 29th day after the operation, which was performed, with much skill and dexterity, by M. Bruggeman, assisted by M. Willens. The child lived only a few hours." It is a pity that we are not told the exact amount of deformity which rendered this fearful operation necessary.

RECORDS OF THE RESULTS OF

MICROSCOPICAL AND CHEMICAL ANALYSES.

OF THE

SOLIDS AND FLUIDS

CONSUMED BY ALL CLASSES OF THE PUBLIC.

"Forewarned, forearmed."

SUGAR,

ITS IMPURITIES AND ADULTERATIONS.

Two kinds of sugar have been particularly distinguished by chemists—viz., cane and grape sugar, or glucose: the first is obtained from the sugar-cane, the beet-root, the maple tree, and some other plants,—while the second is contained, in greater or less quantities, in most fruits, and particularly in grapes and figs. Honey, although usually described as consisting of grape-sugar, contains a large quantity of cane-sugar, and is therefore a mixture of the two kinds.

These two sugars differ considerably in many of their properties. *Cane-sugar* is a natural production, consisting of oxygen, hydrogen, and carbon; it is crystallizable, the crystal being a six-sided, oblique prism, and when pure, not prone to deliquesce, or alter when exposed to moisture or a moderate temperature.

Grape-sugar is also a natural production, consisting of the same elements, but a less proportion of carbon. Unlike cane-sugar, its manufacture can be effected by art—that is, by the action of dilute acids, particularly the sulphuric, on either starch or woody fibre; it has but little disposition to crystallize; and when it does so, the crystals assume no definite figure, but are arranged in acicular tufts; exposed to moisture or a moderate temperature, they readily dissolve.

Pure and *unadulterated* cane-sugar, therefore, should present a highly crystalline texture; should be of light colour, and free from clamminess or moisture.

These two sugars may be readily discriminated from each other by the action of certain tests, and grape-sugar, particularly, by the copper and potassa tests.

Now grape-sugar is frequently met with in the brown sugars of commerce, in considerable quantity, being sometimes introduced for the purpose of adulteration.

This adulteration Dr. Ure, in the "Supplement" to his "Dictionary of Arts, Mines, and Manufactures," states, can always be detected by means of the well-known copper test; and at page 240 that chemist thus expresses himself on this point:—"With my regulated alkaline mixture I never fail in discovering an exceedingly small portion of starch sugar, even when mixed with Muscovado sugar; and thus an excellent method is afforded of detecting the frauds of the grocers."

The correctness of the above assertion we are not able to confirm, for the reasons about to be adduced.

When sulphate of copper and liquor potassæ are added in certain proportions to a solution of grape-sugar, and heat is applied, the red oxide of copper is immediately thrown down. In a solution of cane-sugar no such result ensues.

On employing this test in thirty-six solutions of different samples of cane-sugar, obtained from grocers, we find that the red oxide was thrown down in every case: now, had we relied implicitly on the authority above alluded to, we should, without further investigation, have adopted the conclusion that the whole of the sugars so tested *were adulterated* with grape or starch sugar.

The uniformity of the result, however, excited suspicion, and we determined to investigate further.

The test was then applied to some sugars obtained direct from the hogshead, and with the same result; the red oxide was thrown down as before; this, of course added strength to previous suspicion.

It was next tried in a solution of some sugar taken direct from the cane itself, and with a similar effect. The cane from which the sugar was procured was not recent, but was a portion of a bamboo which had been sent over to this country.

Applied to solutions of twelve different lump sugars, the test was more or less successful in three cases, and after the solutions had been boiled for a few minutes, and the sugar thus reduced to the state of syrup, it became perfectly so in the whole twelve sugars.

Lastly, employed with very dilute solution of treacle in water, a copious precipitate of red oxide invariably subsided.

These experiments are of considerable importance, and show clearly—

1st. That cane and grape sugars are very constantly associated, and that they even, in some cases, co-exist in the cane itself.

2nd. That grape-sugar is very generally, and probably invariably, present in the colonial sugars as imported into this country.

3rd. That it is present in nearly all the brown sugars of commerce in very variable quantities.

4th. That some lump sugars even—which are in general to be regarded as pure cane-sugar—contain traces of grape-sugar, and that by the action of a temperature but little exceeding 212° Fahr., they may be readily converted into the inferior sugar called glucose or grape-sugar.

5th. That treacle is in great part constituted of grape-sugar, resulting, as will be shown hereafter, from the decomposition of the cane-sugar itself, which takes place to a very great extent during its manufacture.

The several results obtained with the copper test were all confirmed by the potassa test; thus solutions of cane sugar, obtained either direct from the cane, the hogshead, or the grocer, were, when boiled with caustic potash, more or less darkened; the solution of sugar produced from the cane was perfectly colourless until after boiling with the alkali, when it became deep brown.

It thus becomes evident that *the subsidence of even a large amount of the red oxide from the application of the copper test to solutions of cane-sugar is not a sufficient proof of fraudulent adulteration with grape sugar*, as it was formerly deemed to be by Dr. Ure.

IMPURITIES OF CANE-SUGAR.

The impurities of cane-sugar may be divided into the organic and the inorganic.

The *organic* impurities consist of fragments of the sugar-cane, glucose or grape-sugar, vegetable albumen, blood, an animalcule peculiar to sugar, fungi, woody fibre, and starch granules.

The *inorganic* impurities are lime, lead, iron, and particles of stone or grit.

Now, these several impurities are not contained in the crystals themselves, which are pure cane-sugar, but in the more fluid and uncrystallized part of the sugar—that is, in the molasses of sugars, which adheres to and coats the surface of the crystals.

On the Presence of Fragments of Sugar-Cane in Sugar, and on the Structure of the Cane.

The juice of the cane is expressed by means of powerful machinery, and during the operation innumerable fragments of the cane itself, many of them of extreme minuteness, become detached, and pass into the juice. As this in its manufacture into sugar does not undergo in general any process of filtration, and as but few of the fragments drain away with the treacle, the greater part of them are retained in the sugar, in all unfiltered samples of which they may be readily detected in great abundance by means of the microscope.

For the more ready and certain identification of these fragments, it is necessary to give a short outline of the structure of the sugar-cane itself.

The sugar-cane belongs to the class of Endogens and the family of the Grasses; it consists of nearly cylindrical rods or stems, which are divided into joints at irregular distances of some three or four inches, and its structure is made up of cellular tissue, woody fibre, vessels, and epidermis.

The parenchyma, or cellular tissue, forms the most considerable portion of the sugar-cane, and it is constituted of aggregations of infinite numbers of utricles or cells, in the cavities of which the juice is enclosed.

These cells are usually rather longer than broad, and in the central parts of the bamboo they are several times larger than in its outer and harder part; the membranes of which the walls of the cells are formed, are all finely dotted or punctated, a character by which the cells of the sugar-cane may be clearly distinguished from most other vegetable cells.

The woody fibre traverses the cane in a longitudinal direction in distinct bundles, which give no transverse sections of the bamboo a dotted appearance. Each bundle is constituted of a number of greatly elongated cells, which are also usually more or less dotted, like the ordinary cells of the parenchyma; of which, indeed, they appear to be merely modifications.

The vessels follow the same disposition as the woody fibre, in the centre of each bundle of which one or more is generally included. These vessels are of two kinds; the one is the interrupted spiral or dotted, and the other the simple spiral vessel; the dotted vessels are sometimes cylindrical, but frequently polygonal, from the compression exerted upon them by the woody fibre, by which they are immediately surrounded, and the markings of the cells forming which they frequently exhibit on their surfaces; the spiral vessels are found chiefly in the outer and harder part of the stem: they are formed of a single thread, remarkable for its thickness and strength.

The epidermis or cuticle is known by its elongated, crenate cells, and the presence of stomata; at the distal extremity of each internode of the stem of the cane, the ordinary epidermic cells are replaced by a layer of cells having totally different characters; they are usually little longer than broad, more or less rounded or oval in shape, with their edges marked with short and well-defined lines, disposed in a radiate manner; these cells resemble somewhat the cells found in the stones of fruit, and they form by their union a zone round the cane, polished, hard, and of about the third of an inch in depth.

Fragments of sugar-cane are present in great quantity in Muscovado sugar, in the sugars of the shops in general, and in "bastards," a product of the manufacture of loaf-sugar.

They are not contained in loaf-sugar, crushed lump, sugar-candy, nor in certain of the East Indian sugars; in all these the cane-juice undergoes the process of filtration which effectually removes all solid and bulky impurities.

The presence of these fragments, in many cases, serves to distinguish satisfactorily cane-sugar from either beet, maple, or grape sugar, which otherwise it would be extremely difficult, if not impossible, to effect.

By the same means, also, cane-sugar may be detected when mixed with beet or starch sugar, a practice which, we believe, is common in France.

The saccharine juice of the beet-root is filtered, and therefore fragments of that plant are not present in the sugar made from it, as they would doubtless be, were this means of purification not adopted.

The presence of sugar-cane in sugar increases the bulk and weight of the article, lessens its sweetness, and thus deteriorates both its quality and value.

On the Admixture of Grape with Cane-sugar.

Purified cane-sugar, some of the more obvious properties of which have already been described, is the most perfect form of sugar known; it is crystallizable, possesses great sweetening properties, and is remarkably indisposed to undergo putrefactive or fermentative changes.

Grape-sugar, on the contrary, is a low sugar, deficient in sweetening power, and very prone to fermentation.

It is therefore obvious that cane-sugar must be considered as deteriorated in quality, and consequently depreciated in value, by admixture with grape-sugar, the deterioration and depreciation being proportionate to the amount present.

Now, lump-sugar, well refined, is entirely free, as we have seen, from grape-sugar, and this therefore is one of the purest forms of sugar met with in commerce.

Sugar-candy is another of the purer forms, especially white sugar-candy.

Crushed lump, and even the inferior loaf sugars, are also comparatively pure cane-sugars.

Again, certain of the sugars of the East Indies are tolerably free from grape-sugar.

On the other hand, most of the brown sugars of the shops contain a good deal of grape-sugar.

Raw or Muscovado sugar, containing, as it always does, much treacle, is contaminated with a still larger proportion of grape-sugar.

But the treacle itself, and the sugar called "bastards," contain by far the largest proportion of grape-sugar, and are, indeed, to a considerable extent, constituted of it.

It is well that it should be distinctly understood that the inferiority of such cane-sugars as contain grape-sugar largely is not in general due alone to the presence of that substance, but also to certain other impurities which usually accompany it, as vegetable albumen, fragments of cane, &c.

On Vegetable Albumen in Cane-sugar.

Vegetables, like animals, contain principles, into the composition of which nitrogen largely enters: the chief of these is vegetable albumen.

Now, these principles, whether they occur in the dead plant or animal, are remarkably prone to undergo change and decomposition.

This decomposition reacts on the non-nitrogenized substance, sugar, and induces in it a series of changes including fermentation.

The greater the amount of vegetable albumen, therefore, contained in any sample of sugar, the more liable will it be to undergo fermentative and putrefactive changes.

It is the presence of this vegetable albumen in the juice of the sugar-cane which constitutes one of the great difficulties of sugar refining. Salts and substances, sugar included, it is known will not readily crystallize in an albuminous fluid: the efforts of the refiner, therefore, are directed to the removal of this substance, no easy task; and the more completely this removal is effected, the purer, in general, will be the sugar obtained.

In loaf-sugar, sugar-candy, and certain East Indian sugars, although they contain some albumen, yet the amount comparatively is but small.

The brown sugars in general use, raw or Muscovado sugar, treacle, "bastards," all contain albumen largely, and therefore are liable to ferment; and indeed, as usually met with in commerce, they are actually in a state of slow fermentation, as is shown by the fact, that a solution of them in warm water evolves a distinct and frequently strong odour, resembling that of sweet-wort.

It thus appears that those sugars which contain most grape-sugar ordinarily also are most contaminated with albumen.

Now, grape-sugar, as we have before said, is the form of sugar most liable to fermentation, and it is even necessary that cane-sugar, before it can ferment, should first be converted into grape-sugar; the presence of albumen, therefore, tends to convert cane into grape-sugar, and so augment the amount of the latter.

But there are other evils, still more serious, connected with the presence of albumen in sugar, and which will be presently noticed.

Blood in Sugar.

The employment of the blood of animals is confined to the manufacture of loaf-sugar, and its use, we believe, is now very frequently dispensed with, even in the preparation of this article.

The blood acts only through the albumen which it contains: now, we have just said, that one of the great difficulties of sugar-refining arose from the presence of vegetable albumen in the cane-juice; and here we have the contradiction involved in the practice of putting albumen into the solution of sugar.

The advantages derived from the use of this substance, we persume, are considered to more than counterbalance the disadvantages attending it; and indeed it would appear that there is not the same difficulty in the removal of animal albumen as is experienced in the abstraction of vegetable albumen.

The mode of its operation is as follows: the fluid albumen is diffused throughout the whole of the sugar-solution to be clarified; on the application of heat, the albumen immediately solidifies, and forms meshes and films, which, being lighter than the water, ascend, and in their upward course carry before them the mechanical impurities contained in the solution, on the surface of which a scum is gradually formed, consisting of the impurities in question and the solidified albumen; this scum may be removed by skimming.

Now, as it is the albumen of the blood only which assists in clarifying the sugar-solution, and not the blood itself, it would be far better that albumen alone, as white of egg, should in all cases be employed.

Blood is a fluid compounded of fibrin, albumen, and a variety of salts and effete substances; its use, therefore, in the manufacture of lump-sugar, is not merely disgusting, but is calculated to prove injurious to health.

The sugar-refiner will tell us that the whole of the blood employed is removed by the process of filtration adopted; this is not the case, however, as may in general be readily proved by dissolving a few knobs of lump-sugar, in a large wine-glass of warm water, and subjecting the sediment which usually falls to the bottom, to microscopic examination, and chemical analysis; the first shows that the sedimentary matter consists of angular flocculi, taking the form of the interstices of the crystals; and the second, that it is composed of coagulated albumen.

The only considerable advantage derived from the use of blood, is its cheapness, and when not merely cleanliness but health is concerned, the question of economy ought not to be entertained for one moment.

On the Acarus Sacchari, or Sugar-insect.

There is very commonly present, in the more impure kinds of sugar, a beetle-like animalcule, of the genus *Acarus.*

For the discovery of the very general presence of this acarus in sugar, the scientific world is indebted to Dr. Hassall.

Mites or acari approach somewhat, both in organization and habits, to lice or pediculi, and the genus acarus includes the itch-insect itself.

The sugar-mite is in size so considerable, that it is plainly visible to the unaided sight. When present in sugar, it may always be detected by the following proceeding:—two or three drachms or teaspoonfuls of sugar should be dissolved in a large wine-glass of tepid water, and the solution should be allowed to remain at rest for an hour or so—at the end of that time the animalcules will be found, some on the surface of the liquid, some adhering to the sides of the glass, and others at the bottom, mixed up with the copious and dark sediment formed of fragments of cane, woody fibre, grit, dirt, and starch granules, which usually subsides on the solution of even a small quantity of sugar in water.

We will now proceed to give a description of the animalcule, and observe, in the first place, that the whole of its development may be clearly traced out in almost every sample of brown sugar.

The *acarus scachari* is first visible as a rounded body, or egg; this gradually enlarges and becomes elongated and cylindrical until it is about twice as long as broad; after a time, from the sides, and one extremity of this ovum, the legs and proboscis begin to protrude.

The acarus thus far formed, goes on increasing in size until it attains its full growth, when it is visible to the naked eye as a mere speck.

In its perfect state, the structure of the animalcule is as follows:—The body is oval, or rather somewhat ovate, being broader behind than before; from its posterior part four long and stiff bristles proceed, two together on each side; and some eight or ten smaller ones are arranged nearly at equal distances around the circumference of the body; from its anterior part a mandibular apparatus of complex organization proceeds, and from its inferior surface eight legs, jointed and furnished with spines or hairs at each articulation; the spine which issues from the last joint but one of each leg is very long, and extends much beyond the termination of the leg itself; lastly, each leg is armed at its extremity with a formidable hook.

In most samples of sugar the acari may be seen of all sizes—that is, in all the stages of their growth and in every condition, some alive, others dead, some entire, and others broken into fragments, bodies here, legs there.

When the acarus is alive, the legs are most commonly regularly disposed around the body, and the creature makes efforts to crawl; not unfrequently a number of acari may be seen attached to fragments of the cane; when dead, the attitude and disposition of the several parts are changed; the proboscis falls on one side, and the legs are variously arranged.

The *acarus sacchari* clings to life with great tenacity, for very warm water does not always kill it, and it may frequently be found in a living condition even after twenty-four hours' immersion.

We have said that the sugar-mite is very commonly present in the less pure sugars—we might have asserted that it is almost constantly so, the statement being based upon the examination of not less than *one hundred* different samples of sugar.

The acari are very commonly present—

In nearly all the brown sugars as imported into this country.
In raw or Muscovado sugar.
In the ordinary brown sugars of commerce.

They are not contained

In lump-sugar.
In sugar-candy.

In certain of the white sugars of the East Indies, in the manufacture of which filtration is had recourse to.

As a rule, the fewness of the acari present in any sample of sugar may be taken as a fair indication of the purity of that sugar; the purer the sugar, the freer it will be from the disgusting sugar-mite; the reasonableness and truth of this statement we shall immediately proceed to make evident.

It has often happened to us to have to refute the foolish statement of ill-informed and unreflecting persons, that living productions are to be found in everything we eat and drink: this assertion, although unfortunately true of the water we are compelled to drink, and one or two other articles of consumption, as a general statement is completely at variance with the truth, and it may be safely affirmed that whenever living animal or vegetable productions are contained in our food or drink, they indicate conditions which render such food or drink wholly unfit for human consumption.

Every animal production, from the largest to the smallest, contains in its composition a certain proportion of nitrogen, and no animal can live for any length of time on food, as on sugar, for example, which does not contain a proportion of the same principle—viz., nitrogen.

Since, then, the sugar acari live and multiply in sugar, it is evident that they must find in it some substance to feed upon containing nitrogen, and thence capable of sustaining them.

This substance the acari obtain in the *vegetable albumen* of which we have already spoken, and in proportion to the amount of this, in any sample of sugar, will, in most cases, be the number of acari contained in it.

We now understand why the acarus sacchari is not found in the purer sugars, as lump-sugar, sugar-candy, and certain sugars of the East Indies, and why it is almost always present in the brown sugars of commerce, and in raw or Muscovado sugar.

The acari are not usually present in treacle, although this contains a large quantity of vegetable albumen; the reason of this is, that they require atmospheric air, and are not adapted to live for any length of time in fluids.

Grocer's Itch.

It is well known that grocers are subject to an affection of the skin, denominated "grocers' itch," of which one of the symptoms is extreme irritation and itching.

To this disease all grocers are not equally liable, but those more particularly who are engaged in the "handling" of the sugars, as the warehousemen.

Now, the acarus sacchari actually belongs to the same genus as the acarus scabiei, or itch-insect, than which, however, it is larger, and possessed of an organization still more formidable and forbidding.

It thus becomes extremely probable that the disease in question does really arise from the sugar acarus—a point, however, which nothing short of microscopic observation can satisfactorily determine.

It may be contended that the eruption of grocer's itch does not resemble that which is ordinarily occasioned by animalculæ; and it has been very plausibly suggested by an eminent authority on the diseases of the skin, Mr. Erasmus Wilson, that the disorder may be occasioned by derangement of the digestive organs, resulting from the frequent tasting of the sugars.

Grocers are not the only persons subject to an eruption of the skin, attended with excessive irritation, and arising from causes connected with their occupation. Bakers are also liable to a somewhat similar disease; and it is known that flour frequently swarms—is, in fact, "alive"—with a species of acarus, which we name "*acarus farinæ*," and of which we shall have occasion to speak hereafter in detail.

On Sporules of Fungi in Sugar.

Innumerable sporules of fungi are very generally to be observed in the less pure kinds of sugar; they occur, indeed, most abundantly, in those sugars which favour the development of the acari.

They are best seen by dissolving a small quantity of any brown sugar in water, and looking for them in the sediment which subsides, and which, to a great extent, is constituted of the sporules in question.

These sporules are exceedingly minute bodies, usually of an oval form, and either floating singly in the sugar-solution, or else adhering together, and thus forming little beaded threads. Under favourable circumstances, the sporules become developed into perfect plants or fungi.

Now, fungi, like animals, contain nitrogen, and require nitrogenized food for their support: thus they feed, as do the sugar-acari themselves, on the *vegetable albumen* contained in impure sugars.

The presence of fungi in sugar, then, is another evil resulting from its admixture with nitrogenized substances, and they are no doubt, in general, indicative of the fermentation of the sugar. Sporules of fungi are to be found in the brown sugars of commerce, with scarcely a single exception.

On Starch in Sugar.

In almost every sample of brown sugar, there may be noticed a variable quantity of starch granules. For the presence of these we were for some time at a loss to account, and did not know whether they were to be regarded or not as evidences of adulteration: the quantity was obviously too small to serve the purpose of direct adulteration; but it was thought that they might indicate the admixture of cane with starch-sugar, prepared from potato farina, and to which we shall have to allude under the head of "The Adulterations of Sugar."

It became manifest, however, on further investigation, that in most cases their presence was accidental, as not only was their number small, the granules unchanged, but very generally they could be referred to the plant to which they belonged; thus, in samples of sugar obtained direct from the hogshead or bag, the starch granules were those of Indian corn, arrowroot, sago, or tapioca; while in those samples procured from grocers, not only were these same kinds present, but also others belonging to the different grasses, as those of wheat, corn, &c.

When it is remembered that the grains of starch form an almost impalpable powder, and that the slightest breath of wind is sufficient to diffuse them through the atmosphere, there is no difficulty in accounting for their presence in most *brown sugars.*

But starch granules are almost constantly met with in *lump sugars*, in which case the same explanation appears scarcely so satisfactory.

In some instances, however, as will be noticed shortly, the quantity of farina present in sugar is so great, that it must have been designedly introduced.

The ripe sugar-cane contains but little starch, and as the cane-juice is subjected to prolonged boiling, it is manifest that no portion of the starch found in sugar can in any case be derived from the cane itself.

Woody Fibre in sugar.

The last organic substance which we have noticed to occur frequently in sugar are minute and sawdust-like fragments of deal. Their presence in brown sugar is no doubt accidental, and in most cases they are derived from the hogshead in which they are often contained, or other wooden material with which, during the manufacture of the sugar, they happen to come in contact.

In lump-sugar, microscopic or sawdust-like fragments, not only of deal, but also of other woods, are almost constantly seen, and this frequently in great abundance. Of their presence it is not easy to give a satisfactory explanation; their number in some cases would lead to the inference that they had been designedly introduced, possibly to facilitate crystallization, by acting as nuclei.

We have next to notice the *inorganic* impurities of sugar.

On Lime in Sugar.

Lime has a remarkable affinity for organic matter, and it is this which has led to its general employment in the purification of cane-juice.

Now, as brown sugar does not undergo, in the course of its preparation, any process of filtration, a portion of the lime used may very commonly be detected in such sugar.

In the manufacture of lump-sugar, an additional quantity of lime, in the form of lime-water, is employed; and in this sugar, also, notwithstanding the careful filtration to which the sugar solution is subjected, that substance may frequently be discovered.

On Lead in Sugar.

In some cases, traces of lead may be detected in refined or lump-sugar; this circumstance is explained by the use of leaden vessels.

On this subject we shall not at present offer any further observations, as we intend, in a future report, to treat of the manufacture of sugar, and to examine all the facts connected with the process employed by Dr. Scoffern for the refinement of sugar.

On Iron in Sugar.

It occasionally, although rarely, happens that iron may be detected in refined sugar; this, like the lead, is to be traced to the use of metallic utensils.

On fragments of Stone or Grit in Sugar.

Fragments or particles of stone or grit may almost constantly be detected in brown sugar.

There are three sources from which these may be derived—viz., from the imperfectly washed cane itself; from the lime used in clarifying the cane-juice; and from the clay employed in the process of claying.

THE ADULTERATIONS OF SUGAR.

The character of the adulterations to which any article is liable, will of course vary with the article itself, and depend upon its nature and composition.

Thus the adulterations to which the brown sugars of commerce are subject, have relation to their composition, and a knowledge of the various processes adopted in the manufacture of sugar.

Substances entirely different from sugar in their nature are but seldom employed in the adulteration of that commodity, the grocers having recourse to proceedings more natural and more difficult of detection, but scarcely less dishonest than would be the introduction of foreign matters possessed of wholly different properties.

The Mixing, or "Handling" of Sugar.

These proceedings consist in the artful admixture, in various proportions, of sugars of different qualities and prices, none of which are very pure, and some highly impure, an article being thus manufactured, presenting a tolerable appearance to the eye, but really one of very great impurity, and which is but rarely what it professes to be, "real Jamaica," "Demarara sugar," &c.

The impure sugars are dark coloured, imperfectly crystallized, heavy, clammy, and damp, readily caking into masses; examined with the microscope, they are found to contain fragments of cane, woody fibre, grit, &c., and to abound with animalculæ or acari, and sporules of fungi.

The raw or Muscovado sugar of the West Indies is of this nature, as well as are, indeed, to a less extent, nearly all the brown sugars imported into this country.

Now these inferior sugars are largely employed to mix with the whiter and drier sugars of the East Indies and the Mauritius, and are thus sold to the public.

The *large-grained* and white sugars are not well adapted for this process of mixing or "handling," as they will not conceal sufficiently the impure sugars with which they are mixed, and so hide the deception practised; they are not, therefore, purchased for this purpose, but in place of them, inferior and *small-grained* descriptions of sugar, termed "grocery sorts."

We have seen that nearly all the brown sugars imported into this country contain a large amount of impurity, but in general the sugar procured from the grocer does not alone contain this same amount, but it is increased, sometimes doubled and trebled, by the use of variable proportions of other sugars still more impure, in fact—the most impure that can be purchased, so that in the state in which it reaches the public it is entirely unfit for use.

The injurious tendencies of this system are not confined to the purchasers of the impure article, the public, but it extends even to the sugar-producer, who is not only not encouraged to send to market a pure and good article, but is compelled to produce an inferior one to meet the views of "the adulterating grocer." While for the bad article there are purchasers enough, for the good there is scarcely any sale or encouragement; the little that is sold is bought more for samples to be conspicuously displayed in the grocer's window, and so to tempt the passer-by, than for the purposes of legitimate trade.

On the Adulteration of Sugar with Flour.

But grocers do in some cases introduce foreign substances into sugar; thus we have seen that it is sometimes adulterated with flour. This is used, probably not so much because it is cheaper, but partly to improve the colour of very dark and bad sugar, and partly to cause the absorption of the water of the treacle with which dark-coloured sugars are in general contaminated.

On the Adulteration of Cane with Potato Sugar.

Grape-sugar or glucose, as we have already stated, may be made from either starch or woody fibre by the action of dilute sulphuric acid.

Some years since this sugar used to be largely prepared in this country from potato-flour, and as it was sold much under the price of cane-sugar, it found a ready sale, grocers employing it for the purpose of adulteration.

The Excise authorities becoming acquainted with the fact of the extensive manufacture of potato-sugar, imposed a duty upon it, since which we believe it has ceased to be prepared.

On the Adulteration of Cane-Sugar with Gum or Dextrine.

We have been informed, on good authority, that British gum is not unfrequently used to adulterate sugar.

This substance is prepared usually from potato-flour by exposing it to a certain temperature in an oil-bath.

As the starch granules are not entirely destroyed by the temperature to which they have been exposed, but are only so far altered in their composition as to become partially soluble in water, their detection in sugar by means of the microscope would not be difficult.

We have ourselves not yet met with a sample of sugar adulterated with "British gum."

On the Means of Detecting the Impurities and Adulterations of Sugar.

The impurities and adulterations of sugar may be detected by the appearance, by the touch, by the effect of its contact with paper, by the microscope, and by chemistry.

By the Appearance. A *pure sugar* is light-coloured, highly crystalline, large grained, and very dry. *Impure sugars* are dark-coloured, imperfectly crystalline, small-grained, (presenting an earthy appearance,) damp, and heavy.

By the Touch.—A good sugar should be perfectly dry to the touch, and should not feel in the least sticky or clammy when pressed between the fingers; on the other hand, a bad sugar, when treated in the same way, feels moist and sticky.

The effect of Contact with Paper.—The thickness of the sugar-paper used by grocers has often attracted observation, and it has been supposed that it is employed on account of its weight. The true reason, however, is to be found in the absorbent powers of the paper.

Now the quantity of moisture present in most of the sugars of the shops is very great, and its amount may be taken as an indication of the extent of their admixture with grape-sugar, treacle, &c.

When the quantity of water is great, the thick sugar-paper absorbs a portion of the fluid, and becomes wetted and stained; the extent of the discoloration, and the state of the paper, as respects moisture, affording a very good criterion as to the quality of the sugar.

This is a very simple and excellent method of ascertaining, in many cases, the quality of sugar, which, in addition to staining the paper, if impure from admixture with treacle and grape-sugar, will also become hard and caked; in doubtful cases, the sugar should be allowed to remain in the paper two or three days.

By the Microscope.—By means of this instrument the presence of the sugar acari, the sporules of fungi, fragments of cane, wood, and starch granules, may be ascertained, and the adulteration by means of flour, &c. determined.

By Chemistry.—By the magic power of this science the presence of grape-sugar, vegetable albumen, lime, &c., may be ascertained.

A NEW MESMERIST.

On more than one occasion we have condemned in severe terms the pro-quackery article in the *British and Foreign Medico-Chirurgical Review* for April, 1850; an article which, in its entire scope and object, tended to the exaltation of Mesmerism, Hydropathy, and Homœopathy, and the depreciation of Orthodox Medicine. Some of our readers will recollect the passage, more than once quoted, which adopted the mesmeric treatment of ophthalmic disease; but as a matter of fairness we prefer to reproduce the passage entire, before proceeding with our remarks. The Reviewer says that—

> "*A priori*, there is no reason why an intermittent, monotonous, or equally continuous action on the visual nerves should not produce sleep and its results, as well as the same kind of action on the auditory nerves. And we might extend this principle even to the tactile nerves. That the sleep so produced should differ from ordinary sleep is almost a necessary result; but what a field for neurological result is here opened out! So if, after many months of mesmeric labour, absorption should be excited in an opaque cornea—and this is quite possible—we may gladly add the experiment to our heap of facts, and from it and others be able, ultimately, to determine the nature of the influences which imagination or faith, acting through the brain, and along the nerves, exercise upon a part to which it is directed; for that both *can* change the physical condition of parts is notorious; and thus a curative method may be added to medical experience, available when the visionary hypotheses of the mesmerists themselves shall have followed their authors into oblivion."

We have recently obtained a clue to the meaning of these observations, which we did not before possess. We learn that there is a young French damsel practising in Wigmore-street, Cavendish-square, hight Mdle. Julia de B————, who treats ophthalmic disease mesmerically, in the manner described by the *Quarterly*. Whether the young Frenchwoman preceded the *Quarterly*, or whether the *Quarterly* be an humble follower of hers, we cannot certainly inform our readers, but we incline to the latter opinion as the most probable. Mdle. Julia is in great request for her extraordinary soothing powers amongst the elderly hypochondriacal gentlemen of the West-end who are bitten by mesmerism. We believe she has practised extensively, and we are told successfully, upon Sir Benjamin Hall, Bart., the M. P. for Marylebone, whose confidence in the profession we recommend the medical electors of Marylebone to remember when he next solicits their sweet voices at an election. Sir Benjamin has, or fancies he has, recovered the use of his head and eyes under the fascinating passesof Mdle. Julia; a circumstance which we dare say will be related in the next numbers of those kindred publications, the *Zoist* and the *British and Foreign Medico-Chirurgical Review*. So successful have been the efforts of Mdle. Julia, that we at least expect to hear of some amiable young French gentleman and mesmerist devoting himself to mesmeric attentions to the ocular difficulties of elderly maidens, and of other ladies whose wealth and leisure give them proneness to hyp and hysteria. We all remember the dire consequences which befel Captain Shandy, from looking into the "lambent delicious fire" of Widow Wadman's eye, as related by his nephew Tristram, and which we now expect to find easily explained upon mesmeric principles.

The lambent intensity of Mademoiselle Julia beats that of poor Widow Wadman entirely. She conquers disease without any such vulgar propinquity as an eye-to-eye interview; that is, she can do so upon occasion. Mdle. Julia can throw herself into the clairvoyant state with the utmost readiness; and when this is accomplished, if a lock of hair, accompanied by the fee of a physician, be forwarded to her, she can diagnosticate from the hair, the state of the body which it belonged to, in spite of a distance of two or three hundred miles between the fair mesmerist and her patient. When consulted in this manner, the reply of the oracle invariably is, that the disease of the consulting party can be cured by mesmerism, but that it will require much time and patience, *alias* money. We have heard of the wonders of graphiology, but Mdle. JULIA beats them hollow: if two or three locks of hair are submitted to her, she will pronounce which of the locks belongs to the individual best calculated among the patient's friends to become the operating mesmeriser. If you write a letter to Miss JULIA in her non-clairvoyant state, describing symptoms &c., she will, when she has rendered herself clairvoyant, tell you all about the aches and pains which are complained of. Of course this is pure mesmerism! It is not at all likely that so amiable a person as Mdle. JULIA should remember matters of which she was aware only in her waking state, when she has rendered herself clairvoyant! If written to, respecting the progress of her cases, and told what has occurred, she will, when her clairvoyant fit is on, describe the condition of the patient; and if mesmeric remedies are not sufficient, she will prescribe homœopathic doses, or the water-cure, according as her inspiration at the time may fall. So great is Mdle. JULIA's powers, that, in cases of difficulty, the *oi-polloi* among the mesmerists, homœopaths, and hydropaths, send them to the fair clairvoyant for a solution, and her utterances are revered like those of the Pythoness.

Really we ought to congratulate the world at large upon the vast amount of sober and sound good sense there is in the coummunity; we ought to congratulate the profession upon the severely scientific revolution going on in matters medical; above all, we must, on the one hand, congratulate our friends upon the existence of such a work as the *British and Foreign Medico-Chirurgical Review*, and, on the other, we must congratulate the editor of this *opus magnum*, upon the apt and successful teacher, ally, or pupil, he has found in Mdle. JULIA.

PRELIMINARY EXAMINATIONS OF STUDENTS IN MEDICINE.

THE successful study of the medical profession requires a combination of mental powers and acquirements, which can only result from a sound and judicious course of training, commencing in early youth, and continued throughout the career of the practitioner. No sensible man believes that his medical education is completed because he has passed his examination, and is launched into the duties of professional life; he feels that he still is, and ever must be, a student, so great is the field of observation which he is ever compelled to explore, so various and so complicated are the diseases which he is called upon to treat, so heterogeneous are the theories and the modes of practice which he is called upon successively to examine, to adopt, or to reject, and so numerous and important are the discoveries in every branch of the healing art which teem in this prolific age of intellectual progress. But to steer his course advantageously towards the haven of truth, and to escape the shoals and quicksands which impede and obstruct his onward career, he must possess a mind richly endowed with philosophical truths, habituated to systematic discipline, ready to welcome what is valuable, prepared to abandon what is worthless. To induce this exalted tone amongst the members of the medical profession, there is not a more powerful incentive or auxiliary than a comprehensive system of preliminary education. The mind which is once imbued with correct principles of thinking and acting will not easily abandon the habits of early life, which, on the contrary, will grow stronger and stronger as age advances:

> "Quo semel est cuibuta recens servabit odorem
> Testa diu."

Impressed with the value and necessity of an efficient preliminary education in forming the character of the medical practitioner, it has long been the practice at some of the examining boards to require the candidate to produce evidence of a knowledge of classics and mathematics, not because such an acquisition is absolutely indispensable to the study of medicine as an art, but because the possession of such information of these branches of education necessarily involves, on the part of the student, a certain amount of that information which is essential to make him a scholar and a gentleman. Our own views upon this subject are very latitudinarian. We have no deep-rooted prejudices in favour of Latin and Greek as the only portals to the temple of knowledge, and should be quite willing to see their place supplied by the modern languages, such as German or French; but it is obviously necessary that the majority of the world should agree upon certain elementary branches of instruction to be employed in the education of youth; and, so far as the learned professions are concerned, the classical languages have hitherto held the primary place. Again, in the discipline of the mind, the mathematics, which include the sciences of number and of measurement, are unquestionably of immense importance; but a correct knowledge of logic, or the art of reasoning, is equally valuable, and might very well be substituted.

There can be no question as to the relative facility with which the sciences strictly belonging to medicine may be learned and appreciated by the well-informed as compared with the ill-informed student. The former readily grasps the facts and reasonings presented to his notice, arranges them under their proper heads, and stores them up for future use; the latter finds himself continually in a labyrinth of perplexity, and is not only unable to follow out any train of reasoning, but is even ignorant of the meaning of the technical terms which are employed by his teachers.

But it has been a common error to demand the evidence of an acquaintance with general literature or science at the close of the period of medical pupilage, instead of requiring it, as in our opinion ought to be the case, at the commencement: and hence the student has too often been compelled to combine the elementary studies of grammar and syntax with the proper pursuits which belong especially to his medical curriculum. We conceive that every student should be required to give evidence of possessing a good general education *before he enters upon his medical studies*, and then the system of grinding Latin grammar into the heads of men who ought to be employed in the hospital and the dissecting-room would be entirely unnecessary.

The system adopted at the University of London, of requiring that all students, for whatever profession they may be destined, should pass the matriculation examination, is one that deserves the highest commendation; and we should rejoice to see the day when every medical student would cheerfully present himself at this preliminary tribunal before entering upon his anatomical and medical courses. If the College of Surgeons of England were to require at least *some* preliminary knowledge from those who seek its diploma, they would neither lower their own dignity nor degrade their members in public estimation; and if the demand on the part of the College for a smattering of Latin, or German, or mathematics, from those to whom the lives of the community are to be entrusted, should perchance exclude some few persons from the membership, the result would not be particularly disadvantageous either to the public or the profession. The Society of Apothecaries have for several years required a knowledge of Latin, at least, from their licentiates; and we could wish that they would so far modify their present plans as to allow students to come up for examination in classics at a very early period of their hospital studies, or before they have commenced them, by which means a double good would be effected; the student would be better able to comprehend the instructions of his medical teachers, and he would be enabled to pursue his after studies without being compelled to mingle them with elementary pursuits, which, however useful and important to a schoolboy, are out of place in a medical school. The preliminary knowledge is as important to the medical practitioner as a scaffolding is in construction of a house; but it is just as absurd to teach medicine first and Latin afterwards, as it would be to try to build a house first, and afterwards to erect the scaffolding.

REGULAR QUACKS.

Dr. Johnson instituted a striking comparison between the social position of the lawyer and the physician. Few, he says, know the defects of the physician they employ, and no man is acquainted with the excellence of him he refuses to consult. But the lawyer is obliged to produce himself in public, and give evident proofs of his claim to the reputation he enjoys. Like many other sayings of the great moralist, there is more speciousness than fact in these distinctions. The annals of the bar contain as many and as conspicuous examples of shallow undeserved success, and of neglected worth, as the history of any other occupation; while we feel confident that the medical profession generally, through all its branches, assumes and maintains as high a standard of intellectual capacity, profound learning, and high moral worth, as either of the two other learned faculties. Some of the great medical celebrities of London do, however, rest on very shadowy foundations. We have always, as our readers well know, constantly wielded the power of this journal to baffle and destroy the advertising quacks, whose avowed occupation it is to deceive and swindle; but we are bound to say the race of semi-quacks within the pale of the profession are hardly less noxious or more derogatory. It is our duty, occasionally, to devote our attention to the latter, for the sake of those whose integrity forbids them to follow any but the straight and laborious way, and who are too often left behind in the race by more unscrupulous competitors.

These regular irregulars consist mostly of two classes; of men who, starting with honourable ambition, and trying the painstaking road without speedy success, sink into money-making business, and so make their profession a trade; and of others who had neither a tincture of shame, a sense of dignity, or a regard for truth from the beginning. Of the first class we would speak with tenderness, when they keep themselves in the shade, and content themselves with the great object of their pursuit—wealth. The other class it becomes the correctional police of the press to deal with severely, and we propose to pass some of the parties who belong to it under the lash of criticism. It is they who are ever ready to seize every novelty, every real or fancied improvement in practice, and push it to the verge of quackery, so that the public cannot really see where the profession ends and where quackery begins. Such men are more dangerous and more mischievous to the profession than the avowed irregulars. We shall take an early opportunity of applying these general remarks to particular instances, though every medical man must, in his own sphere, be able to make an abundance of such applications.

LOCOCK'S LOZENGES.

One of the most successful modes employed by the vendors of quack medicines to get rid of their trash, is to prefix some well-known name to the nostrum. Thus, "Sir Astley Cooper's Pills," "Locock's Lozenges," &c., have been puffed, as though they really had the sanction of the names appended. The following advertisement, extracted from the *Times* newspaper, is worthy of being noticed, as it gives a hint in respect to the manner, that the truth in regard to quack medicines of this character may be known. A little money spent in such advertisements might be well laid out:—

(Copy.)

26, Hertford-street, May Fair, Feb. 17, 1851.

Sir,—In reply to your inquiry, I have no hesitation in assuring you, that the Pulmonic Wafers, Female Wafers, Antibilious Wafers, or Female Pills, that have so often been advertised with my name, are not mine, nor do I know anything of their composition, nor have I anything whatever to do with them, either directly or indirectly.

Your obedient servant,

To Mr. Keating. Charles Locock M.D.

Foreign Department.

ACADEMY OF SCIENCES OF PARIS.

"*Encouragements*" *to the Authors of Approved Scientific Works.*

M. **Andral** has just reported the decision of the committee appointed to award prizes to the authors of works on medicine and surgery.

For 1849: To M. Jobert de Lamballe, £100, for his "Treatise on Plastic Surgery;" to M. Guillon, for his new pulverizing lithotrite, £40; to M. Martin, £40, for his work, entitled, "Essay on Artificial Lower Limbs;" to M. Morel Lavallée, £40, for his work on "Hernia Pulmonum."

For 1850: To M. Herpin a reward of £60, for his work called, "Practical Observations on the Prognosis and treatment of Epilepsy;" to M. Merceir, £60, for his investigations of the valves of the urinary bladder, and his remarks on the treatment of the retention of urine caused by such valves; to Dr. Vrolik, £40, for his work on "Teratology;" to Dr. Stahl, £40, for his work on the "Anatomy and Physiology of Endemic Idiocy;" to M. Hurtaux, £40, for his "Essay on the Physiological and Therapeutical Effects of the Emanations of Tobacco, as observed upon the Workmen of the Paris Manufactories." Finally, to M. Carrière, £40, for his work, entitled "The Climate of Italy in a Hygienic and Medical Point of view."

An Ingenious and Satisfactory (?) *Deduction.*

A Dr. **Quesneville** is advertising in *L'Union Médicale* various preparations of iodine, which he exclusively manufactures; they are, hydriodic ether, oil mixed with iodine, and soluble iodide of starch. He ventures to state that the hydriodic ether is especially intended for the treatment of pulmonary phthisis, and explains the action of the compound in the following manner:—When the hydriodic ether penetrates the lung, it enters into combustion, and gives rise to hydriodic acid, which has the power in its nascent state of *dissolving* the tubercles! Thus was it at one time confidently stated in this country, that naptha would act in a similar manner upon the tubercular matter.

Remuneration of Medical Attendants in France.

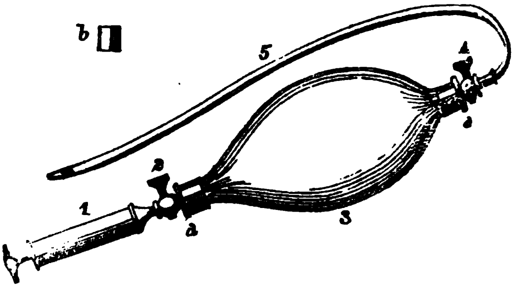
M. **Amedee Latour**, editor of *L'Union Médicale*, has lately published a very instructive article on the above subject. From this contribution we find that the majority of medical men, especially in the country, are lamentably paid, the principal cause of this sad state of things being the unfortunate practice of underselling one another. There are surgeons in the country who will pay a visit for five pence, and even two pence half-penny; attend a midwifery case for twenty pence or half a crown; set a limb for tenpence, &c. &c. In Paris the evil is likewise very great, it being well known that some unscrupulous characters offer their services underhand at a lower rate than the usual attendant has fixed, that rate being indeed low enough, as it ranges from twenty pence to half a crown a visit, even in Paris.

At Toulouse a club was formed some time ago, composed of a thousand individuals, who offered a surgeon one thousand francs (£40) a year to attend all the members. He, being a beginner, accepted these miserable terms; seeing which, a professional **brother** went and offered his services for half the sum. But the latter was soon outwitted, as a third sprang up and offered to do the work for £10 a year!! M. Latour throws out the idea that a minimum should be fixed and agreed upon in each locality; but we fear that he did not consider human frailty sufficiently when he thought of that expedient.

New Inventions
IN AID OF THE
PRACTICE OF MEDICINE AND SURGERY.

A New Stomach-pump.

Dr. **Wilbraham Falconer**, of Bath, has forwarded to us the following engraving and description of an apparatus, which he conceives may, in many cases, be advantageously employed, in lieu of the stomach-pumps now in use. The apparatus consists of an exhausting syringe (1); an oval glass receiver (3), capable of containing from sixteen to twenty ounces of fluid; an India-rubber or gutta-percha tube (5); together with two caps for either end of the receiver, similar to that represented at *b*. 2 and 4 are stop-cocks; *a a*, the extremities of the receiver, over which the caps are to be screwed when the exhausting syringe and tube, with the stop-cocks, have been removed.



When intended for use, the syringe and tube are screwed to the receiver, as represented in the sketch. The stop-cock nearer the tube is to be closed, while that nearer the syringe is to be opened. The receiver is then to be exhausted as much as possible by successive strokes of the syringe-piston, and when this is accomplished, the syringe may, for convenience, be separated from the stop-cock. The tube is then to be passed into the stomach, and the stop-cock attached to it being opened, the contents of the stomach will rapidly ascend into the receiver. When the fluid ceases to ascend, the tube is then to be withdrawn, and both it and the stop-cocks being removed, are to be replaced by the caps.

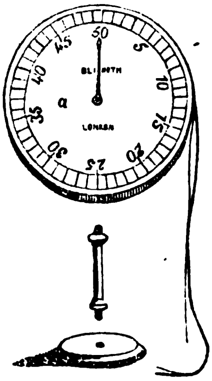
One disadvantage attaches to this apparatus—namely, that the stomach cannot be washed out by it. There are, however, advantages connected with it, which Dr. Falconer points out as rendering it worthy of attention. "It is an apparatus simple in construction and in its principle of working. No injury can arise from any error in the employmont of it. Its adjustment occupies considerably less time than the ordinary stomach-pumps. The contents of the stomach are removed much more quickly than by the ordinary apparatus, and they ascend into the receiver in one steady and continuous stream. The jerking action of the usual stomach-pump is wholly avoided, and the danger of thus injuring the coats of the stomach evaded. The apparatus now proposed for use is infinitely much cleaner than any stomach-pump now in use, inasmuch as the latter frequently, if not always, contain some, if not a large, amount of impurity collected around the piston and valves, the produce of their working or decompositions resulting from the fluids brought into contact with them, and also by the too often filthy state in which they are left after use. So great, indeed," says Dr. Falconer, "as far as I have been able to ascertain, is the amount of impurities to be found in many stomach-pumps in use, that an advocate for the defence of a prisoner charged with an attempt, whether successful or not, to poison, might, I apprehend, very properly demand some information respecting the state of the instrument employed in removing the contents of the stomach, and urge that doubts as to the condition of those contents might be entertained by the court. The materials of which the apparatus now suggested for use in lieu of the ordinary stomach-pumps is made ensures cleanliness, and the fluid removed from the stomach will have its integrity safely preserved. It flows direct from the stomach into the receiver, where, by means of the caps, which can be properly secured by tape and sealing-wax, it can be transmitted to any distance for the purpose of analysis. I am disposed to regard that the analysis of even a small quantity of fluid thus removed from the stomach would be more satisfactory than a larger amount obtained by the usual means. I have endeavoured, and I trust fairly, to point out the advantages of the apparatus I have suggested. Should it prove useful, my object will be gained. I cannot, however, conclude without expressing my thanks to Messrs. Weiss for the care and attention they have paid to the manufacture of the apparatus, and to state that by them only is it made."

The Stethometer, an Instrument for aiding in the Diagnosis of Diseases of the Chest. By RICHARD QUAIN, M.D.

Any want of symmetry in the movements of the walls of the chest during respiration has long been regarded as a valuable indication as to the existence and the seat of disease in the important organs within that cavity. This fact has led to a variety of attempts to construct instruments for measuring these movements. To one of these instruments, which really seems to answer every requirement, our attention has been recently called by Mr. Coxeter, the surgical instrument-maker. The following is an outline of the description and mode of using this instrument, as given in one of our monthly contemporaries by Dr. Quain, to whom the credit of designing the stethometer belongs:—

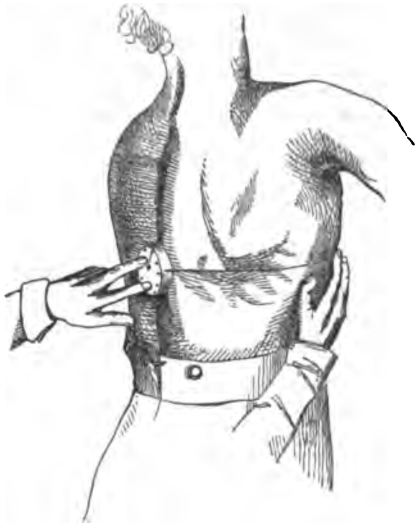
"*Description.*—The instrument (see fig. 1)* consists of a case, like a watch-case. On its upper surface is a dial, and also an index. This case contains a simple movement, by means of which the index can be acted on. A silk cord, which acts on the index, passes through an aperture in one side of the case. When the cord is drawn out to the extent of one quarter of an inch, the point of the index will once traverse the circumference of the dial. In other words, when the index has gone once round, it shows that the cord has been extended one-fourth of an inch. It will be further seen that the dial is graduated, or divided, into fifty equal parts, each of which is, therefore, equal to the fiftieth part of a quarter of an inch—that is, to the 1-200th of an inch. The index is further capable of going round a second time, on an additional quarter inch of the cord being drawn out.

FIG. 1.



"*Mode of Application.*—It is evident, that if the instrument be so placed that extension be made on the cord, the amount of the extension will be shown by the movement of the index on the dial. For example, (as in fig. 2,) if the instrument be laid flat on the spine, and held in its place by the first and second fingers of the left hand, whilst the cord is carried round the chest, and pressed on one of the ribs, or the sternum, by the fingers of the right hand, then, when the individual under examination expands the chest during inspiration, the amount of expansion will be communicated to the cord, and thus indicated on the dial. The cord may then be directed around the opposite side of the chest, and thus will be at once seen any difference which exists in the relative mobility of the two at the point under examination. It will, of course, be absolutely necessary, in every examination, that corresponding parts of the chest be compared. The instrument may be applied to any part of the chest on the principle here described."

FIG. 2.



The author has described the different positions in which the instrument may be applied, the precautions required in using it, and the diseased conditions, in the investigation of which it may be successfully applied.

It appears to us, that this instrument must afford very material assistance in the investigation of diseases of the chest.

DR. ROBERT LEE AND DR. SIMPSON.

To the Editor of THE LANCET.

SIR,—At a late meeting of the London Medico-Chirurgical Society, it was stated to the Society by Dr. Robert Lee, that at the dissection of a case in which ovariotomy had been performed by Mr. Lizars, some twenty-five years before, I considered the tumour ovarian, until the two ovaries were shown me at the dissection. The following letter to Dr. Lee will show how very far he was from stating what was true, when he made such a statement.

Edinburgh, 52 Queen-street, Feb. 3, 1851.

DEAR SIR—At the last or one of the last meetings of the Medico-Chirurgical Society, you adduced a private letter sent to you by Mr. John Lizars, of Edinburgh, stating in relation to one of his published cases of ovariotomy, that "Dr. Simpson, on inspecting it, pronounced it to be ovarian, but in looking to the ovaria, they were both found healthy."

---

* The instrument is reduced in this sketch to half size.

Mr. Lizars was not present at the dissection; and the statement which you thus gave to the Medico-Chirurgical Society was altogether incorrect.

Dr. Myrtle had charge of the patient and of the dissection; and I enclose to you a letter from that gentleman, stating, that I was the first to point out at the dissection that the two ovaries were quite unaffected. The tumour was, as you are aware, a fibrous tumour, arising from the fundus of the uterus.

Let me merely add, that I have long given up the idea that ovarian tumours (such as this was supposed to be a quarter of a century ago, when Mr. Lizars operated) ever remain stationary for any long term of years. Fibrous tumours, however, of the uterus, often enough remain latent, and without increase for a great length of time. And this simple distinction led me, *à priori*, to doubt whether the tumour in question could *possibly* be ovarian.

I write this, in order that you may, at the next meeting of the Medico-Chirurgical Society, set the Society right on a point which you thus thought fit to lay before them. I scarcely could have fancied it worthy of being mentioned to such a Society, whether I was right or not right, at the dissection and diagnosis of a case. But as you considered it worthy of the observation of the Society, that I was in error in regard to the case, you will, I doubt not, now equally consider it worthy of their observation, that it was you who were inadvertently in error in making the statement.

Yours, &c.,
To Dr. Lee J. Y. SIMPSON.

Dr. Lee having refused to correct in any way the mis-statement which he made, I hope the fellows of the Medico-Chirurgical Society will pardon me taking the present, as the readiest means, of correcting the erroneous statement publicly made to them by one of their own body.

Again, at the last meeting of the Medico-Chirurgical Society, (as reported in your journal,) it would appear that Dr. Lee thought fit to misrepresent to the Society another case in which I was concerned, and published an account of. Dr. Lee stated to the Society, that in a case of mollities ossium, I intended to perform the Cæsarian section, "when the sacrum was straight above, so that its promontory did not probably encroach upon the brim;" hence attempting to lead the fellows to the untrue inference that the pelvis was not contracted to such an extreme degree as to require such an operation. But he deliberately suppresses the two facts; first, that the outlet was so greatly contracted, that it was under an inch in its transverse diameter, and about two inches in its conjugate; and, secondly, that the dead and putrid child was so diffluent and decomposed, that it was passed readily after its birth, through an artificial aperture one-eigth of an inch in width, and two and three-eighths of an inch in length.

Perhaps most of your readers may think it unnecessary to point out these two instances of misrepresentation on Dr. Lee's part; the one consisting in a *suggestio falsi*, which he refuses to recall, and the other presenting an equally marked instance of the *suppressio veri*. But I trust they will excuse my alluding to them in your pages, as I have no other way of refuting publicly the ridiculous and disengenuous charges which they contain. They afford, also, I fear, only two common instances of the type of misrepresentation in which Dr. Lee indiscreetly indulges himself in those painful fits of *furor obstetricans* against all his professional brethren, under which he, from time to time, so unhappily suffers. Is it right for the Medico-Chirurgical Society to abet these morbid attacks in Dr. Lee? Is it kind to Dr. Lee himself to encourage him in their open and public manifestation?—Yours, &c.,

J. Y. SIMPSON.

Edinburgh, Feb. 1851.

Medical Facts, News, Items, &c.

ANNIVERSARY MEETING OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—The annual meeting for the election of officers for the ensuing year was held at the Society's rooms on the 1st of March.

After some desultory conversation respecting the mode of selecting fellows to fill official appointments, the Report of the Secretary was read, which stated that the Society had obtained a lease of the whole of the house, 53 Berners-street, for fifty-four years at a rental of £160 per annum, the Society having the power to give them up at the end of every seven years. The Treasurer's Report showed that the income of the Society of last year was £1809 9*s.* 7*d.*, the expenditure, £2117 17*s.* 5*d.*, leaving a balance due to treasurer, of £308 7*s.* 10*d.*

The PRESIDENT delivered the customary annual address. He observed that it had been reported that the Medico-Chirurgical Society was not prosperous, but he would impress upon the members that numbers and treasure were not always the right tests of the success of a Society. Numbers might dilute as well as strengthen; but when he looked around on the gentlemen present, and also on their list of fellows, comprising the most eminent medical men even in the world, he could not believe that the Society was anything else than prosperous. He then alluded to the great expense as well as toil and perseverance necessary to acquire a knowledge of the medical profession, the objects of which are the highest of any; and referred to the fellows who had been removed from their Society by death during the past year—Dr. Prout, Dr. Haviland, Mr. Crosse, Mr. Malyn, Mr. Stafford Lee, and Mr. Joseph Freeman. The President read a short memoir of each, written by some friend of the deceased. Dr. Golding Bird, who was the author of Dr. Prout's memoir, styled him the European founder of pathological and physiological chemistry, and showed that all the interesting researches of Liebig and Mulder were based on Dr. Prout's foundation. The president of the College of Physicians wrote a short sketch of the life of Dr. Haviland, in which was mentioned the fact of his being the first to establish a regular course of anatomical lectures in the University of Cambridge, in which he was professor of medicine. A brief account of Mr. Joseph Freeman was written by Mr. Green; and one of Mr. Stafford Lee by Mr. Quain. The President, in making allusion to the late Mr. Crosse, of Norwich, passed a high eulogium on his unceasing industry in the profession. He characterized him as a man not possessed of any extraordinary talent or ability, but one who owed his great success in life to his own untiring energy, never trusting to others, but doing everything himself; so greatly was he respected in Norwich, that the Dean and Chapter had allowed his remains to be placed in the Cathedral. The President then, in an eloquent manner, thanked the members for their kindness and attention during his period of office, and concluded amidst much cheering.

DEATH OF MR. LEACH.—This gentleman, so intimately connected with the profession for many years past, has ceased to exist. Mr. Leach was well known as a popular classical teacher, and has assisted in bringing a large number of works before the profession. The father of the deceased was also connected with the immortal Howard, in some of his noble measures for improving the condition of prisons.

Yours most truly
Robert E. Grant.

THE LANCET.

A Journal of Medical, Surgical, and Chemical Science and Practice, Criticism, Literature and News.

MR. WAKLEY, M.P., EDITOR. J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

VOL. I. NEW-YORK, MAY, 1851. No. 5.

A Course of Lectures

ON

SURGICAL MANIPULATION;

EXPLAINING THE USE AND METHOD OF EMPLOYING THE VARIOUS KINDS OF BANDAGES, INSTRUMENTS, AND APPARATUS,

SO ARRANGED AS TO FORM A CONCISE INTRODUCTION TO THE PRACTICE OF OPERATIVE SURGERY.

BY EDWARD F. LONSDALE,

Fellow of the Royal College of Surgeons, Assistant-Surgeon to the Royal Orthopædic Hospital.

LECTURE V.

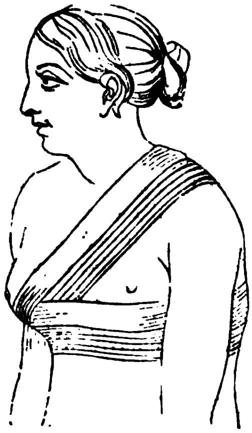
OF BANDAGES FOR THE FEMALE BREAST, AND FOR THE ABDOMEN.

I DID not mention in my last lecture that a common handkerchief may be very well substituted for the bandages I last described to keep poultices or dressings on the side of the neck or beneath the axilla, where these bandages cannot be obtained. The principle of application is the same, making the handkerchief take the form of the figure. If it be for dressings on the side of the neck, you place the centre of it on the neck, and then cross the two ends on the top of the opposite shoulder, and tie beneath the axilla. If for keeping a poultice in the axilla, you reverse the folds, beginning with the centre of the handkerchief beneath the axilla, and cross the two ends on the top of the same shoulder, and tie on the opposite side of the neck.

Figure of **8** *for the Female Breast.*

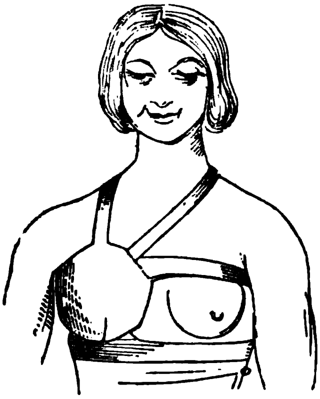
There are certain diseases of the female breast which cause pain to the patient from the dragging produced by the increased size and weight of the part, such as enlargement from scirrhus, or chronic abscess after inflammation; or you may require to keep the dressings and to make pressure on the gland after operations. You are well enabled to do this by the bandage I have next to describe, the principle of which is not difficult to understand. You take a roller about five or six yards long, and between three and four inches wide, and commence by passing it under the axilla of the affected side, along the back over the opposite shoulder; then down in front underneath the breast which has to be supported; then beneath the axilla, and round the back again; but this turn, instead of going over the shoulder, passes horizontally round the chest, and then beneath the affected breast. It must now pass round the back again, and this time over the shoulder and round to the breast, as was done at first, repeating alternately the turn over the shoulder and round the chest, making each overlap the preceding one, so as to encroach more and more on the breast, and so give it more support each turn the bandage makes. You may support both breasts, if required, by having a longer bandage, and crossing it alternately over the two sides. The principle of application is precisely the same.

FIG. 39.



This is a convenient form of bandage, where the object is to make firm and equable pressure over the whole breast, with the intention of producing the absorption of tumours, &c. To do this, you completely cover the breast with the turns of the bandage, instead of merely passing it along its lower half. You cannot make direct pressure on the breast by means of the common circular bandage passing round the chest, owing to the situation of the opposite breast, and the projection formed by it preventing it coming in contact with more than its upper surfaces, all pressure round the base of the breast being lost; but the bandage I have just described, from the oblique direction it takes, avoids all contact with the opposite breast, and can completely cover the one of the affected side.

FIG. 40.

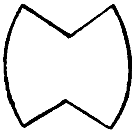


Suspensory Bag for the Female Breast.

In some of the forms of the frightful cancerous diseases, it may be required, either to keep poultices or dressings of a peculiar nature, or to keep the part completely covered up to exclude the air, or to keep up a degree of warmth, or to suspend the whole breast and so removing the dragging weight, which is often the cause of pain and distress to the patient. The following kind of bandage obtains one and all of these objects very easily and effectually:—

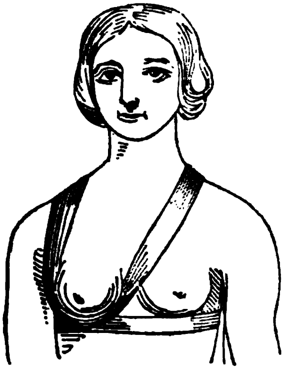
Composition.—A piece of stout linen, about a foot square, or of a circular form, and larger or smaller, according to the size of the part to be covered. You then cut two triangular pieces out of it, one (the upper) extending to nearly half its diameter, the other to a quarter of it, as in the woodcut. The edges of these two triangular penings are to be sewn together, when they will form a kind of bag, of a size and depth, according to the size of the linen rag of which it is composed. To this bag you attach five pieces of bandage, in the following manner: one long piece is to be sewn to the lower margin, and of a length sufficient to pass round the chest once or twice, accordingly as it may be wished to tie at the back or front. To the upper margin of the bag two tails are to be attached at right angles, or obliquely, as their direction may require, for them to pass round and to tie at the back of the neck. Two other tails are then to be sewn to the upper part of the sides of the bag, in a direction to pass horizontally round the chest, beneath the axilla, and to tie at the back, between the shoulders.

FIG. 41.



Application.—The dressings having been placed upon the breast, the bag is to be applied over them, taking care that its margin completely surrounds the base, more particularly at its lower part, to guard against displacement upwards when traction is made upon it. The lowest or horizontal tail is now to be passed round the chest, on either side, and tied behind; or it may be made long enough to cross behind, and come round in front, and tie there instead. This portion of the bandage keeps the bag fixed to the lower part of the breast or tumour. You next take the two middle tails, and pass one under either axilla, and tie them behind; while the two upper tails are passed round the neck, and tied at the back also. The whole bag is now firmly fixed, and in close contact with the breast, and the breast or tumour can be suspended by tightening the strips of bandage that pass round the neck. It is a very useful and convenient form of bandage. (Fig. 40.)

FIG. 42.



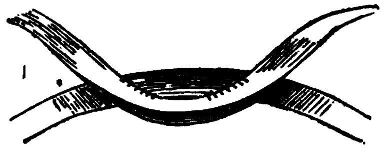
Simple Suspensory Bandage for the Female Breast.

A simple bandage may be required to support the breast, without wishing to cover it completely, or to make pressure upon it, as in inflammatory affections of the gland, either from injury or from suckling, &c.

Composition.—You take a piece of calico, long enough to pass twice round the chest, and from six to eight inches in width, (depending upon the size of the breast to be supported.) You split it at either end, so as to make four tails, leaving a central portion unsplit, about three inches in length. You then cross these tails, by passing one on either side underneath the other, and sew them together from the point where the split begins to the point where the edges of the two tails meet by crossing. You will thus have a shallow pouch formed, as represented by the woodcut, Fig. 43.

Application.—An assistant, or the patient herself, raises the breast gently upwards, to allow of the central portion of the bandage being placed well beneath it; and while held in this position, the two lower tails are to be passed round the chest, and to be either tied there and crossed, or to be brought round to the front again, and there tied. The two upper ends are then to be passed, one on either side of the breast, up to the back of the neck, and tied. Upon the length of these two ends depends the degree of support given to the breast. The bandage applied is represented in Fig. 42.

FIG. 43.



A similar bandage may be made of two common handkerchiefs when a long piece of calico cannot be obtained. You fold both handkerchiefs up towards their centres, to form each a band about four inches in width; you sew or pin them together at their margins, to the extent of about two inches at the middle. You apply them in the same manner as the bandage last described, placing the lower handkerchief round the chest, immediately below the breast, while the upper one passes on either side of it up to the back of the neck, and ties there. This one is kept in position by the point where it is sewn to the horizontal band that passes round the chest.

OF BANDAGES FOR THE ABDOMEN.

I next come to speak on bandages for the abdomen. The cases for which you may require to use them are wounds of various kinds, for the operation of paracentesis, for either peritonæal or ovarian dropsy, and after parturition. In cases of wounds or burns of any part of the abdomen, the bandage required is one merely to surround it, and is made broad or narrow, according to the nature of the injury; and this is a point worthy of attention being paid to it. In burns, when the surface is the part that only has to be considered, and the dressings have merely to be placed in position and retained there, you may either use a simple circular bandage, passed two or three times round the abdomen, and then pinned; or if the extent of surface required to be dressed is large, and the patient suffers much from being moved, you may employ the many-tailed bandage, similar to the one described for the chest in the last lecture.

In wounds of the abdomen, you have to consider whether they penetrate through the walls, or are merely confined to the skin, or part of the substance of the muscles. If the wound penetrate, you will be almost sure to have protrusion of the viscera to a greater or less extent. Your object then is, after having returned the protrusion, or hernia, (which it is in fact,) to support the part of the abdomen opposite the wound the most, and to let the parts on either side be free; thus, if you had a wound at the upper part of the abdomen, you use a broad bandage, and make it lie quite evenly on the upper part, and leaving the lower part loose and unconstrained, so as to let the viscera fall as much as possible from the wound, which they could not do if the bandage constricted this part as well as the upper; whereas, if the wound be at the lower part of the abdomen, you would support this part the most, and with a broad bandage, very evenly applied, with the intention of removing the viscera as much as possible from the wound, as well as mechanically closing the opening which exists. In all these cases, of course you close the wound as neatly as possible by ligature, plaster, compresses, &c., before applying your bandage. These are points, however, which I shall refer to hereafter.

In all wounds of the abdomen you must apply the circular bandage, and it must be broad, and made to lie quite flat and even. The six or eight-tailed bandage would not give sufficient support opposite the wound. The point to guard against is, to prevent the circular bandage from slipping or rucking upwards, when it will fall into the shape of a thick cord, and produce more harm than good. You must guard against this by pinning or sewing two pieces of bandage to the circular one after it has been applied, and make them pass down between the thighs if there be a disposition for the bandage to slip up; or to pass over the shoulders and tie at the back of the neck, if it be disposed to slip down. There is only one other point I have to mention with regard to bandaging this part—namely, that if the person be fat—or, in other words, the more protruding the abdomen, the broader the bandage must be.

Table of Bandages for the Abdomen.

Simple circular.
Simple spiral.
Many-tailed.
Slit bandage, for paracentesis.
Suspensory bandage, for the abdomen.
Simple circular, for lying-in women.
Six-tailed, for lying-in women.

The first three of these bandages—viz., the *circular*, the *spiral*, and the *many-tailed*, I have already described, when speaking of bandages for the chest; their composition and application are precisely the same, only they are employed for the abdomen instead of for the chest. The chief point you have to attend to is to prevent their slipping upwards; and this is done by passing two strips of bandage from the back part, and bringing them up in front, on the inside of the thighs, and pinning them to the lower edge of the bandage, at either groin.

Of the Slit Bandage for the Abdomen, after the Operation of Paracentesis.

You may have enormous secretions of fluid in the region of the abdomen, either situated in the cavity of the peritonæum, constituting the disease called ascites, and, in the female, situated in the ovary, constituting the ovarian dropsy; in either of these cases it sometimes becomes necessary to relieve the patient by evacuation of the fluid. The point I have to consider with regard to this operation is, the method of applying the bandage; and a very important point it is. In the majority of cases, when the disease has so far advanced, and, especially in ascites, the patient has become so much reduced, and the circulation so much enfeebled, as to render him incapable of sustaining any shock to, or alteration in, the heart's action; you have then to consider, that when so large a quantity of fluid is withdrawn in these cases, you at the same time take away great pressure, or in other words, support, from the large vessels situated on the spine, these vessels, being, as you know, the aorta and vena cava, its thin walls being easily dilatable, tends greatly to retard the flow of blood to the heart, owing to which, the action of the heart becomes greatly enfeebled, producing syncope; and there are cases on record, I believe, where this syncope has proved fatal. Your object, then, in these cases, in applying the bandage, is, to afford that support to the great vessels of the abdomen which they are deprived of by the removal of the fluid.

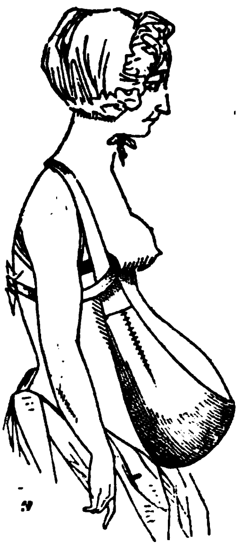
The kind of bandage you use must be very broad, so as to cover as much of the surface of the abdomen as possible; and the common round or "jack towel," as it is termed, is a very good thing; but if you have the opportunity of obtaining a proper bandage expressly suited for the operation, you will support the abdomen more effectually, as well as give the patient more comfort. If you make a bandage on purpose, you proceed as follows:—You take a piece of strong linen cloth, two feet wide, and long enough to pass twice round the abdomen, before the fluid is withdrawn; you then fold it lengthways, so as to make it only one foot wide, the edges being slightly sewn together to keep them even with one another; you then make two openings or slits in the bandage; one a small one, about three inches long, in the centre of the bandage as regards its length, but nearer to the inferior than the upper edge as regards its width; this slit is intended to be opposite the part, midway between the umbilicus and pubes, when the bandage is applied; and the object of it is to leave a place for the trocar to pass through without being obliged to shift the bandage. You then make another larger slit in a part of the bandage to correspond with the spine of the back when it has surrounded the abdomen, which will be a fourth of its whole length: this slit should be about six inches long, and made in the long diameter of the bandage, for obvious reasons, when you come to pull upon it. The object of this slit is to allow the other portion of bandage to pass through it.

All things being prepared, then, you place the patient in an easy chair without arms, and have two assistants; one is to stand on either side; their office being to take charge of the bandage. You then place the bandage round the patient, so that the smaller slit shall be opposite the median line below the umbilicus, or the point at which you intend making the opening, while the one end of the bandage is made to pass through the slit behind. You must pay particular attention to see that the bandage lies quite smoothly in front, and is evenly pulled down. The trocar being passed into the abdomen, the assistants have to draw equally and firmly over the two ends of the bandage, making gradually a degree of pressure which shall compensate for the loss of support against the great vessels as the fluid escapes. When the operation is completed, the two ends are spread out as smoothly as possible, and being brought firmly round in front, they are made to overlap, and are then pinned together, taking care that you use large pins; or else, if they cannot be obtained, the ends should be sewn to the rest of the bandage. If you want more support than this, you may pass a broad flannel roller three or four times round the abdomen over the other bandage. An illustration of this is not required.

Suspensory Bandage for Supporting the Uterus in Pregnant Women, Large Tumours, Dropsy, &c.

Many women, during pregnancy, carry the child "very low," as it is termed, which means, that the uterus, instead of rising gradually, in an oblique line, towards the umbilicus, falls forward, and rests more directly on the edge of the pelvis than is ordinarily the case. This may depend upon two causes—either the abdominal muscles are too weak to give the proper support, or the round ligaments do not stretch in a degree commensurate with the rising of the uterus as the fœtus grows—the ligaments become, in fact, too short,—the consequence of which will be, that the inferior part, or cervix uteri, is tilted upwards, so as to look, and press, in fact, against the upper part of the sacrum, owing to the fundus and rest of the uterus falling so much forward, and over the pelvis.

FIG. 44.



Where this position of the uterus occurs, if the patient suffer inconvenience from the dragging pain it produces, she will derive much comfort by supporting the abdomen with the following kind of bandage:—You take a piece of thick linen cloth, either unbleached calico, sheeting, or old tablecloth, in length sufficient to extend from side to side, beneath the tumour to be supported, as high as to the margin of the ribs; in width it should extend from the umbilicus to the pubes. You then cut two long, triangular pieces out of either end, so that when their edges are sewn together they may make the central portion into a kind of pouch or bag. To either end of this long bag you sew two broad pieces of bandage, of a length sufficient to pass round the neck, and to cross backwards, underneath the axilla of either side.

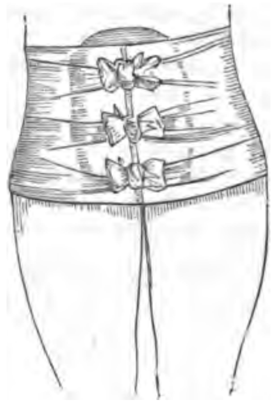
Application.—You place the central broad portion of the bag beneath the most depending part of the abdomen, seeing that it evenly fits the shape of the tumour. The two long bandages are then passed upwards to the back of the neck, (in front of the shoulders,) and there crossed; they are then passed down behind either shoulder, beneath the axilla, and made to loop round the ascending portion of the bandage, placed in front; they are then turned backwards again, and tied at the back. The bandage is kept from slipping sideways, by being crossed at the back of the neck; and is prevented slipping forwards by being looped beneath the axilla by the last turns of the bandage. (Fig. 44.)

BANDAGES FOR LYING-IN WOMEN.

All women, after labour, feel comfort from the support of a bandage passed evenly round the lower part of the abdomen, embracing the pelvis as well. It gives general support, and compensates for the loss of pressure which has been so long made by the large uterus, occupying the place of the viscera, and consequently putting the abdominal muscles on the stretch. For this purpose, you have a broad piece of linen, six or eight inches wide, made of sheeting folded, or tablecloth, and long enough to pass round the pelvis and lower part of the abdomen; the pelvis requires support as well, owing to the strain made upon the joints during the passage of the child's head. There are some cases, however, when the bandage is of higher importance still—namely, in helping to restrain uterine hæmorrhage after labour, the treatment of which it is not my business to enter upon here. All I have now to do, is to show you how to apply the bandage firmly and securely; and this is no easy matter without you make a bandage especially for the case. There are two objections to using the common broad spiral bandage in these cases; the one is, that it is difficult to pass a bandage round the pelvis, while the woman is lying on her back or side, and when your object, at the same time, is to keep her as quiet as possible; the second is, that when it is once applied, it is very liable to slip upwards and get out of place. Still you must use this if you can get no other. In common cases, when you do not wish to make great pressure, but merely to support the pelvis or abdomen, the common broad band passed round, and pinned with three or four large pins, is all that is required.

The bandage I would recommend, when it can be obtained, and it generally can, by telling the patient to have it in readiness before her labour commences, is the following:—You take a piece of linen cloth, unbleached calico or sheeting, long enough to pass round the pelvis, and two feet wide; you fold it in its long diameter, so as to make it only a foot wide, and then sew the edges together to keep its shape. You then take six bands, made of calico or thick linen cloth of some kind, and fold them twice to make them of sufficient strength; they should be each two feet in length, to allow of their being easily tied, and with a good purchase to pull with before so doing.

FIG. 45.



Six-tailed bandage for making Pressure upon the Uterus.

Application.—You place the compress, of whatever it may be composed, in a situation to tell upon the uterus, and then place the bandage in a position that it may extend for half its width above the pelvis, while the other half surrounds the pelvis itself. You then tie the two lowest of the six strings or bands, and then the two uppermost, and finally the two middle ones. The reason of tying the middle bands last is, that the pad may not be tilted out of position, which it would be if they were tied before the upper ones. I believe this is the simplest, as well as the most efficient kind of bandage for arresting uterine hæmorrhage, for any amount of pressure can be made by it, and without liability of slipping. Should it be inclined to do so, two thigh-straps may be attached to the fore and back part of it. The wood-cut (Fig. 45) shows the bandage, when applied.

If you use the common circular bandage, made of linen, or the round towel, the best way is to tie it in a large knot, and make the knot press just above the hypogastrium, either directly upon the uterus or upon a compress of some kind, (and a square book folded in a towel answers the purpose exceedingly well,) so placed that it can command the uterus, and prevent it rising upwards. There is some difficulty, however, in preventing the knot slipping; this may be guarded against, to a certain extent, by bringing the hanging ends of the knot (if long enough, and by tying pieces of bandage to them, if not) round beneath the thighs, and then pinning them above the hips to the lower edge of the broad part of the bandage in these situations.

LECTURE VI.

Of Bandages for the Pelvic Region.

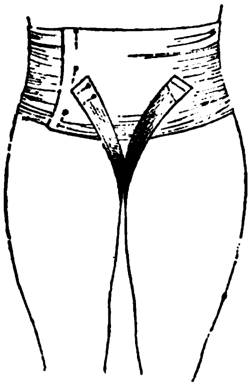
The pelvic region includes the lowest part of the abdomen, the groins, the organs of generation, and the perinæum. Bandages may be required for all these parts, either to keep dressings of various kinds applied, or to keep instruments fixed in the bladder, uterus, or rectum. There are also the various kinds of trusses; these, however, with some other kinds of apparatus, I shall describe afterwards, under the head of "Elastic and Spring Bandages."

Of Bandages for the lower part of the Abdomen and Groins.

There are many cases for which bandages may be required in these regions; such as burns, sloughing wounds from bruises, extensive abscesses, sinuses, buboes, operations for hernia, &c.,—and the following is a table of the most useful kinds.

Simple broad circular, with perinæal bands.
Square band, with two long tails.
Triangular band, with three tails.
Simple scarf, or handkerchief.
Figure of **8**, for one or both groins.
Looped or knotted, for one or both groins.

Fig. 46.



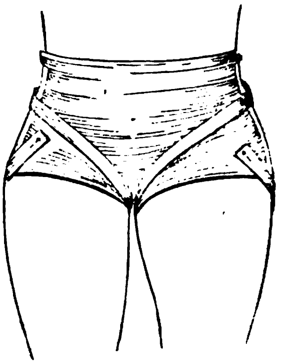
Simple broad circular bandage, with perinæal bands.

You may require bandages for the lower part of the abdomen for other purposes than those described in the last lecture; where the object is merely to confine dressings without making any great pressure, a bandage of a lighter and simpler form may then be used.

You take a broad piece of linen or calico, from six to eight inches in width, and long enough to surround the lower part of the abdomen and pelvis, and to overlap for three or four inches. To the centre of the bandage, at its lower edge, you attach two narrow bands or tails, long enough to pass beneath the perinæum up on the inside of the thighs, and to pin in front of the bandage.

Application.—You place the dressings or poultices upon the part as required, and then surround the pelvis and hypogastric region with the broad band, spreading it evenly out to its whole width, and then pinning the ends where they overlap, with three or four large pins. You then bring the two perinæal bands upwards, from behind, and keeping them close to the bend of the groin, to avoid pressure against the scrotum in the male, and the labia in the female; they are to be pinned just above the groins on either side of the median line. This bandage answers the purpose well, and though made like the common T bandage, differs from it in principle; in the latter the perinæal portion is the broader and acting part, while in the former it is the abdominal or pelvic portion.

Fig. 47.



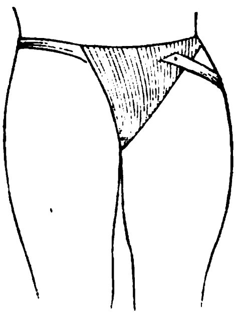
Square band, with two long tails.

You may require to cover the lower part of the abdomen and the groins at the same time, in burns and extensive abscesses, buboes, &c; where both these parts are included by the disease, the following bandage answers the purpose exceedingly well, to keep the dressings applied.

Composition.—A square piece of linen, of a size to cover the lower part of the abdomen and upper part of the thigh, below the groins. To the upper corners you attach two long slips of bandages, of a length sufficient to pass along the back, down in front of the groins, behind the thighs, up to near the groin again; a small slit may be made in the edge of bandage opposite the pubes, to allow of its fitting the bend of the groins more closely.

Application.—You place the square portion of the bandage over the lower part of the abdomen and groins; you then take the two long tails attached to the two upper corners and pass them behind the loins, making them cross to opposite sides, and bring them round in front, over the bend of the groins, down to the inside of the thighs, then behind, and finally up on the outside, where they are pinned to the lower corners of the square portion of the bandage, which then braces them down and keeps them from slipping. This is a very convenient form of bandage, as the mode in which the two long tails are attached and crossed over the groins, braces the whole firmly down, and in contact with the parts requiring to be covered. It is a good method for keeping a poultice on both groins. (Fig 47.)

Fig. 48.



Triangular bandage, with three tails.

This bandage is useful where one groin only is affected, as in single bubo, sinuses after scrofulous abscesses, &c.

Composition.—A piece of linen rag, shaped triangularly originally, or made of a square piece of linen, folded diagonally into the form of a triangle. To each of the three corners you attach three strips of bandage long enough to pass round the hips and beneath the thigh.

Application.—You first place the dressings and poultice on the part; you then apply the bandage in a position that the longest side or base of the triangle shall lie in the direction of the groin, (at a higher or lower level, according to the situation of the disease for which it is employed.) The two upper bands or tails are then passed behind the loins, and tied there, or crossed, and brought round in front, and then tied. The lowest of the three tails is now passed down the inside of the thigh, brought up behind on the outside, and then pinned to the lower edge of the triangular portion, where it lies in the bend of the groin. This is simply a confining bandage, and does not make any decided pressure on the part. (Fig 48.)

The simple Scarf, or Handkerchief, for the Groin.

To make this bandage properly, you require two handkerchiefs. You tie them both together by one of their ends, and pass one of the handkerchiefs round the pelvis just above the hips, and tie where it meets opposite the groin of the affected side. You then pass the depending portion, or other handkerchief, downwards over the groin, along the inside of the thigh, and bring it up behind, and then tie or pin to the portion of bandage just above the hip.

M. Mayor's Bandage for the Groin.

This bandage is made of a very long handkerchief or piece of linen cloth, (a common handkerchief is not long enough.) Its use is to confine dressings to the groin, or upper part of the thigh.

Application.—The handkerchief, or scarf, of whatever it may be made, is folded diagonally. The centre of the base of the triangle is then placed in a line with the groin, the loose portion hanging downwards. The upper end is then passed round the loins, and brought up in front over the opposite groin, across, and then pinned to the upper edge of the scarf. The lower end is carried down the inside of the thigh, behind, and then brought up on the outside of the hip, where it overlaps the loose end, or third angle, of the handerchief, (which, from its position, would be placed on the outer and back part of the hip,) and is then pinned to the centre of the broad portion, near to the point where the other end has already been fastened. This is a good confining bandage, where a handkerchief or piece of linen or calico can be obtained of sufficient length. (Fig 49.)

Fig. 49.

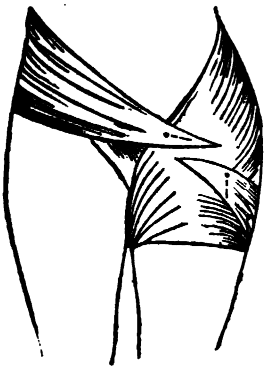


Fig. 50.

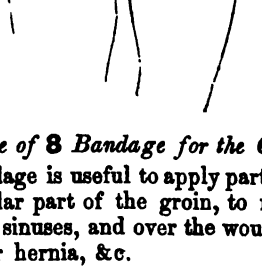


Figure of 8 Bandage for the Groin.

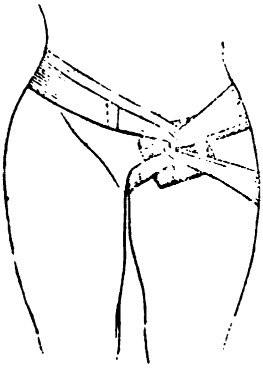
This bandage is useful to apply partial pressure to a particular part of the groin, to retain compresses over sinuses, and over the wound after the operation for hernia, &c.

Composition.—A common roller, six or eight yards in length and three inches in width, or longer, if both groins are to be covered. It may be rolled up either at one or both ends, to form a double or single headed roller; the former, if both groins have to be rolled—the latter, if one only.

Application.—If one groin only have to be bandaged, and you use a single roller, you begin by applying the loose end of it round the loins, and bring it round in front to meet the rest of the bandage, opposite the groin; you then pass the roll of the bandage along the groin (over the dressings and compress) down to the inside of the thigh, behind it, and then up on the outside, up again in front of the groin, over the compress, obliquely across to the opposite side, where it is made to pass behind the loins, round to the opposite groin, where it began, passing down again to the inside of the thigh, taking the same course the first turn did, and these turns have to be repeated till the whole of the bandage is exhausted. (Fig. 50.)

When both groins have to be bandaged, the double-headed roller is the most convenient to employ. The principle of its application is the same, only you alternately cross the bandage over to the opposite groin, making it cover first one and then the other.

Fig. 51.



Looped or Knotted Bandage for the Groin.

This kind of bandage is one of the most useful that can be employed for certain diseases in the groin, such as sinuses or indolent buboes, or to keep up pressure after the reduction of a hernia, or upon the wound after the operation for the same. The peculiar way in which the turns of the bandage are looped round each other admits of great pressure being applied, by the aid of a compress placed beneath them, which pressure can be regulated at pleasure, according to the degree of tightness with which the bandage is pulled upon.

Composition.—A double-headed roller, each roll four yards long, and six yards if for both groins; a firm compress of lint, of a size and shape suited to the nature of the disease or wound.

Application.—The pad is placed upon the groin; you then unroll the central portion of the bandage, and place it low down across the loins, so that it may grasp the pelvis when brought round to the front; the two rolls are then crossed, the one upon the other, at a point opposite to the pad, but instead of being carried down the thigh, as was done with the figure of 8 bandage, you loop the two portions round one another, so reversing their course, by which the turn of bandage, that if left to itself would have passed down the inside of the thigh, is made to pass down the outer side, and the reverse with the other. The effect of this loop is, to make firm pressure downwards, towards the surface on which it is placed, and to do so more or less, according to the degree with which it is tightened. (Fig. 51.) The wood-cut shows only two or three turns of the bandage, to make the folds more distinct; in reality, the loops would amount to six or eight, according to the length of the roller. When boh groins have to be bandaged, the roller, of course, must be double the length, and be carried alternately round the two groins. The principle of application is precisely the same.

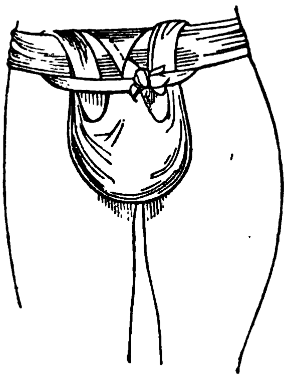
Of Suspensory Bandages for the Scrotum.

Bandages are required for the scrotum for many purposes—to give support in certain diseases of the testicles, either in inflammatory affections or varicocele, &c; to confine poultices or dressings in diseases of the scrotum itself; or to support a large scrotal hernia, which, from its size, cannot be retained in the abdomen by the common truss.

Suspensory bandages are of two kinds—either loose, and used to give general support, without any attention to the precise shape, or made purposely to fit the part closely, and so to act more decidedly in giving support and making pressure on the part itself. The latter also has an opening for the penis. The simplest form of suspensory bandage is that made with two silk handkerchiefs—the one tied round the pelvis, just above the hip, the other tied to the centre of it at the loins, and brought round to the front between the thighs, and being spread widely out, is made to surround the scrotum, and is then tied or pinned to the horizontal handkerchief in front. The more the vertical portion of the handkerchief is drawn upwards, the more support it will give to the scrotum. It is not necessary to give an illustration of this; it is, in fact, a simple T bandage, made with two handkerchiefs, and the same may be done with two long pieces of linen or calico.

M. Mayor has made a very ingenious application of the silk handkerchief to support the scrotum, without passing beneath the perinæum. He takes two handkerchiefs, or large pieces of linen cloth, and passes one round the pelvis, just above the hips, and ties behind, or to one side. He then folds the other handkerchief diagonally, to make it triangular in shape, which he disposes of in the following manner:—The centre of the base, or longest side of the handkerchief, he passes up behind the scrotum, as high as it will go, till stopped by the fore part of the perinæum. The two long ends are then pulled upon, and drawn upwards on either side, (taking care not to displace the portion behind the scrotum,) and passing in *front* of the handkerchief round the waist, are turned downwards *behind* it, and being brought round in front, and outside the loops so formed, are tied over them, and so made to brace them down. The remaining portion of the handkerchief to be disposed of is the loose angle or apex which has been lying down in front; this is to be passed upwards *behind* the ends that have just been tied, and behind the waistband as well, over which it is made to lap, and to be there pinned. It is a very ingenious bandage to keep large poultices to the scrotum, or to give general support to the part, where a bandage specially for the purpose cannot be obtained. When the patient requires to pass urine, the central portion has to be unpinned, and withdrawn from beneath the other, and then to be re-inserted. The bandage is represented in

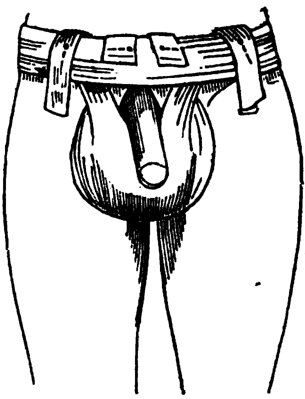
FIG. 52.



M. Mayor's Suspensory Bandage for the Scrotum.

There is another form of suspensory which may be used where large poultices or dressings are required for the whole of the scrotum when it is much swollen, as in cases of phlegmonous erysipelas. It consists of a common broad **T** bandage, terminating in four tails anteriorly, the object of these tails being, as it will be seen, to enable the anterior portion of the bandage to surround the scrotum completely, and to keep the poultice on the back part as well as on the front, by preventing its escape laterally.

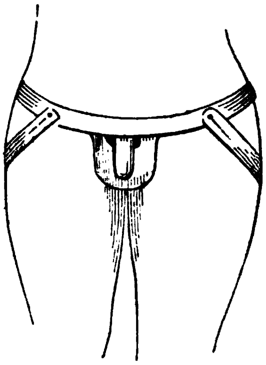
FIG. 53.



Four tailed **T** *Bandage for the Scrotum.*

Composition.—A handkerchief, or band of some kind, to pass round the pelvis above the hips, to form a fixed point of attachment for the other portion of the bandage, which consists of a broad piece of linen cloth which is to be pinned or sewn to the circular band behind, and then brought upwards between the thighs. The upper end of it is then to be split into four tails, the slits only extending as low as the root of the penis. These four tails are disposed of as follows:—The two outer ones are passed *behind* the other two, and turning over the root of the penis, are then crossed behind and looped over the pelvic band, to which they are to be pinned. The two inner tails are then drawn upwards also, and made to pass behind the pelvic band, diverging outwards, are then to be pinned to it also. The woodcut (Fig. 53) illustrates the relative position of the four tails, and the direction in which they are made to cross will also explain the manner in which they will draw the bandage behind as well as in front of the scrotum.

FIG. 54.

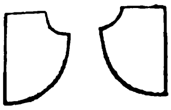


The common Suspensory Bandage for the Scrotum.

When it is merely wished to confine the scrotum with the object of supporting the testicles, it may be done with a neater form of bandage, more closely fitted to the shape of the parts. The bandages for this purpose are made of various materials, such as jean or calico, silk, or thread net-work. The shape and applications are the same in all. I shall describe the mode of making the commonest kind—viz., the calico.

Composition.—You take a piece of calico, or thick linen cloth, of an oblong shape, and of a size sufficient to surround the scrotum. You then cut it into two halves, and round them off on one of their sides, to nearly one fourth of their size. The upper corner of each corresponding side is then cut out in the segment of a circle, of a size sufficient to enclose the penis when the larger curved edges are sewn together, which they are to be for their whole extent, (fig. 55); a kind of bag or purse is thus formed. You must then make a band of sufficient length to surround the pelvis, which fastens with a buckle, or button to one side; to the part of this band corresponding

FIG. 55.



with the pubes, you sew the upper portion of the bag previously made, which junction completes the opening for the penis. You then take two straps, (called perinæal straps,) and sew them to the inferior angle of the bag. They are to pass backwards behind each thigh, and to be long enough to come up in front, and to button or buckle to the pelvic band just above the groin. Fig. 54 shows the complete bandage when applied; fig. 55, the shape of the two portions of the bag before they are sewn together.

Lectures
ON THE
PHILOSOPHY OF MEDICINE,
DELIVERED IN THE
Lecture-room of the Literary and Philosophical Society, Newcastle-on-Tyne,
BY ROBERT M. GLOVER, M.D.

LECTURE V.

State of Medicine about the time of Bacon.—Van Helmont.—Bacon's Observations on the Mode of Cultivating Medicine. — Sydenham. — Iatro-Chemistry and Iatro-Mathematics.—Boerhaave, Stahl, and Hoffman.—Vitalism, Solidism and the Humoral Pathology.—Cullen.—Claims of Modern Medicine to the Gratitude of Mankind.

ABOUT the close of the sixteenth century, medical men might, on the whole, be divided into two classes; the fanatical innovators, like Paracelsus, and those who defended the authority of the ancients with equal fanaticism. The lever used by the former was chemistry, and the new remedies which this science was continually making known. Hence the battle between the two parties was fought on this ground. Of the feelings of the *old school*, at the time, we have an admirable illustration in Gil Blas—"'Ah, my son!' continued he, with an air of sorrow, 'what a change has happened in physic within these few years! that art is robbed of all its honour and dignity—that art, which in all times hath regarded the life of man, is now a prey to rashness, presumption, and empirics; for their actions speak; and in a little time the very stones will cry aloud against the cabals of these new practitioners, (*lapides clamabunt.*) There are in this city physicians (or such as call themselves so) who are yoked to the triumphal car of antimony, (*currus triumphalis antimonii,*) truants from the school of Paracelsus, adorers of Hermes, accidental curers, who make the whole science of medicine consist in knowing how to prepare chemical drugs. What shall I tell you? everything is turned topsy-turvy in their method.'" Poor Sangrado! Of the almost incredible lengths to which men were led in the controversy between the chemists and the Galenists, we have an example in Guy Patin, who was the zealous opponent of the new doctrine. He has not given us a refutation of chemical medicine, but many proofs of the irreconcilable and blind hatred which he entertained for the chemists of his time. He always speaks of his opponents as malefactors, and doubtless would have treated them as such. He boasts that he never administered an antimonial preparation, and maintains that antimony had slain more men than a long war. His *Martyrologium Antimonii* is a register of the deaths and misfortunes caused, according to him, by the detested drug. At length, in 1666, a formal vote of a majority of the faculty of Paris sanctioned the use of antimony.

The example of Paracelsus in mingling religion with medicine was followed by many. Thus Fludd maintained that diseases were attributable to demons. The four chiefs of these demons were unloosed by the winds from the four cardinal points. The first, Samiel, the image of malignant vapours, came from the east; he was opposed by the angel Michael; from the south came Azaziel, the image of fire, mounted on a basilisk; his opponent was Uriel. And so forth.

Of these mystics, the most respectable was Van Helmont, who, although he *did* see his own soul under the form of a resplendent crystal, was anything but devoid of sense and science. The system of Van Helmont was founded in part on that of Paracelsus. He defined the *Archeus* more clearly than Paracelsus had done, and attributed to it more distinct properties.

His Archeus is simply the principle of life. The Archeus, he says, draws all the principles of life by means of fermentation. Properly speaking, then, there are only two causes of everything—the cause *ex quâ*, and the cause *per quam*. The first is water, from which, according to him, everything has its ultimate origin. This idea he supports by an ingenious experiment. He took an earthen pot, and put into it 200 pounds of earth, which he had first dried in an oven. He moistened this with rain-water, and planted in it a willow which weighed five pounds. After an interval of five years, during which period the earth in the pot was watered with distilled or rain water, the willow was taken up, and found to weigh 169 pounds three ounces. Care was taken to prevent the earth in the pot being mixed with new earth blown on it by the winds. The leaves which fell every autumn were not weighed. The earth in the pot, again dried at the expiry of the five years, had only lost two ounces, so that 169 pounds of wood, bark, and roots, were produced from water alone! As digestion is produced by an acid juice, which dissolves the food under the order of the Archeus, so disease in any organ is the result of an error of the Archeus, which directs the fermentative process so as to send from the stomach a morbid instead of a healthy product to the part. There is a good deal in this idea capable of practical application. One fond of tracing back ideas might indeed find in it the germs of such doctrines as those taught by Abernethy in his constitutional origin of local diseases.

About this period flourished Sir Kenelm Digby, whose sympathetic powder wrought cures as wonderful as those produced by mesmeric and other such means. Thus it is the same eternal round: no sooner are men disabused of one error in regard to medicine, than they fall into others; and so it will be to the end, as long as time shall endure, and human nature remain the same. The history of the cure of scrofula by the royal touch is a glaring example of the little value which should be set upon all narratives of cures achieved otherwise than by means likely to produce the end.

Van Helmont may be considered the founder of the chemical school, to which Sylvius and others afterwards gave great prominence.

The views of Lord Bacon on the subject of medicine are peculiarly worthy of our attention; and we may, I think, clearly trace those views in operation in the succeeding age in the language and the actions of the true restorer of Hippocratic medicine—the great, the immortal Sydenham. Bacon's views on the subject will be found principally in his "De Augmentis Scientiarum;" but they are scattered through all his works. He states medicine to be necessarily a somewhat conjectural art, because the object with which it is engaged is exceedingly complicated, and subject to many variations. He deplores the want of fidelity and attention on the part of observers, who ought to endeavour to present correct pictures of diseases, instead of attaching such value to opinions and hypotheses. Accounts of disease should not be too prolix, mentioning things of no consequence and of daily occurrence; neither should they be too brief and meagre. In fact, many things, not new in themselves, may be observed in new lights, so that descriptions should not be confined to extraordinary events. Bacon particularizes the neglect of morbid anatomy in his time, and the exclusive tendency to a humoral pathology which prevailed. He exhorts medical men to a more particular study of the diseases reputed incurable, so as to try to find out more powerful means of cure, and thus diminish the number of quacks—a piece of advice which is not without its value at present. He complains of the want of real power in the medicine of his day, and attributes the success of quacks to this cause. Medical men, he insists, should, above everything, cultivate the therapeutic branch of their profession.* Perhaps those who formed themselves on the model of Bacon entertained too great a repugnance for speculation. But especially in that age this was the safer error. As we can attribute the formation of the Royal Society, and the spirit which produced a Harvey, a Locke, and a Boyle to the direct influence of the writings of Bacon, whose followers threw themselves on the vast field of science indicated by the author of the "Novum Organum," as the Spaniards in the age after Columbus rushed on the new world; so we may reasonably attribute to the same influence the peculiar character which the genius of Sydenham assumed.

The following passages show how thoroughly Sydenham was imbued with the spirit of the Baconian philosophy:

"To return, however, to our business. As truly as the physician may collect points of diagnosis from the minutest circumstances of the disease, so truly may he also elicit indications in the way of therapeutics. So much does this statement hold good, that I have often thought, that, provided with a thorough insight into the history of any disease whatsoever, I could invariably apply an equivalent remedy,—a clear path being thus marked out for me by the different phenomena of the complaint. These phenomena, if carefully collated with each other, lead, as it were by the hand, to those palpable indications of treatment which are drawn, not from the hallucinations of our fancy, but from the innermost penetralia of nature.

"By this ladder and by this scaffold did Hippocrates ascend his lofty sphere—the Romulus of Medicine, whose heaven was the empyrean of his art. He it is whom we can never duly praise. . . . . Herein consisted the theory of that divine old man. It exhibited the legitimate operations of Nature, put forth in the diseases of humanity. The vain efforts of a wild fancy, the dreams of a sick man, it did *not* exhibit."

I beg to draw particular attention to what follows:—

"I am far from denying that a physician ought to attend diligently to particular cases, in respect to the results both of the method and of the remedies which he employs in the cure of disease. I grant, too, that he may lay up his experience for use, both in the way of easing his memory and of seizing suggestions. By so doing he may gradually increase in medical skill, so that eventually, by a long continuance and a frequent repetition of his experiments, he may lay down and prescribe for himself a *methodus medendi*, from which, in the case of this or that disease, he need not deviate a single straw's breadth.

"Nevertheless, the publication of particular observations is, in my mind, of no great advantage. Where is the particular importance, in just telling us, that once, twice, or even oftener, this disease has yielded to that remedy? We are overwhelmed, as it is, with an infinite abundance of vaunted medicaments, and here they add a new one. Now, if I repudiate the rest of my formulæ, and restrict myself to this medicine only, I must try its efficacy by innumerable experiments, and I must weigh, in respect to both the patient and the practice, innumerable circumstances, before I can derive any benefit from such a solitary observation."*

Such are the words of the great Sydenham, written in the pure spirit of medical philosophy; and in this spirit must every one be content to labour, who is really desirous of advancing his profession, and earning a durable reputation. Far different has been the method pursued by empirics and greedy speculators on the miseries and weaknesses of mankind. Their object is, not to advance truth, but to acquire the name of curing disease; and this is within the power of any one, either in the profession or out of it, who is sufficiently bold and unscrupulous.

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* From several passages in Bacon's works, it is evident that he foresaw the abuse that might be made of a pretended induction, and the probable existence of false sciences.

* Sydenham's Works—Ed. Sydenham Society.

As the object of Sydenham was not to erect a system, but to give faithful pictures of disease, we do not owe to him any general doctrine. But his example was the most precious legacy he could bequeath. And while systematizers were still framing hypotheses, on doubtful grounds, on the continent, our country was honourably distinguished by the labours of numbers of eminent successors of this great man, who, like Mead, Fothergill, and others, followed the precepts of Bacon in the footsteps of Sydenham.

The philosophy of Descartes, which prevailed on the Continent from the middle of the seventeenth to nearly the middle of the eighteenth centuries, was not calculated to encourage observation in opposition to the spirit system; and the rapid advance of chemical and mathematical science led to attempts to explain everything in medicine on chemical and mathematical grounds. As a specimen of the crude chemical pathology so prevalent, we may cite the doctrine of Sylvius regarding the cause of intermittents. They are due, according to him, to an acid acridity of the pancreatic juice, while a greater degree of the same acridity gives rise to hypochondriasis and hysteria! The essential doctrine of Sylvius was, that all diseases are derived from alkalies. Willis, in this country, reasoned in much the same way as Sylvius, although he admitted more chemical causes of disease than acids. Innumerable controversies took place respecting these chemical dogmata; and one of the most conspicuous opponents was Boyle, whose reputation gave weight to his arguments. Pitcairn, Hoffman, and Boerhaave, all opposed the iatro-chemists. The progress of mathematical science seemed to furnish more powerful means of systematizing medicine; and about the beginning of the eighteenth century, iatro-chemistry was to a great extent supplanted by iatro-mathematics. The aspect of this new system appeared so attractive and scientific, and the consideration which its followers gained among the learned was such, that we need not wonder at the diffusion of the doctrines of this new school.

It may be generally stated, that iatro-mathematics was based on the comparison of the human body to machines, and to the legitimate application of mathematics to medicine there is anything but an objection. In fact, where those chemists and mathematicians erred was in reasoning from imperfect data.

As the chemical pathology was humoral, the mathematical took cognizance almost entirely and solely of the solids. The origin of the new school was singularly favoured by the mechanical theory of the circulation of Harvey, and the prevalence of the mathematical doctrines of Descartes, Newton, and Leibnitz. In Italy, too, from the time of Galileo, and, indeed, previously, as far back as the age of Cardan, a close union had existed between the study of medicine and mathematical science. Most of the great physicians of Italy were eminent mathematicians; Sanctorius and Borelli deserve especial notice. The former endeavoured to calculate the quantity of the cutaneous transpiration, and to show the influence which it exercises on health and disease. He invented several instruments in order to investigate disease, and amongst others, the thermometer, in order to estimate temperature in disease. His work on statical medicine includes the results of observations made during a long series of years on the increase and diminution of his own body, and on the influence of external causes on these. The weight of his body being known, and that of the aliments and drinks compared with the weight of the urine and excrement, Sanctorio expected to be able to find the quantity of fluid which escaped by cutaneous transpiration. In this way Sanctorio endeavoured to render more exactitude to medicine; and although we may not now receive all his aphorisms like those of a new Hippocrates, he undoubtedly rendered great services.

Borelli may be regarded as a pupil of Sanctorio. Some of his calculations have been held up to ridicule, but it would be very unfair to judge him by a few errors. His application of mathematical principles to explain muscular movement is alone sufficient to entitle him to the gratitude of posterity. Here the mathematician was in his proper field. He is not so happy in his pathology. His disciple, Bellini, endeavoured, to reconcile the chemical and mathematical schools.* The influence of the mathematical school was much increased by the discoveries of Newton. Keill and others followed in the footsteps of the Italian mathematical physicians.

Boerhaave exercised a great influence on the progress of medicine. His vast learning and extensive reputation as a teacher procured him pupils from all Europe. It is not, however, as an original investigator that he deserves great credit; he was a huge compiler. Individual errors of doctrine signify little in such a case where the general plan is good; and Boerhaave, by showing that every science is capable of application to medicine, contributed materially to the advancement of that knowledge which can alone place medicine on a proper basis. On the whole, Boerhaave may be considered to belong to the iatro-mathematical school. His doctrine of inflammation has been often referred to. He made inflammation depend on stagnation of the blood in the capillaries; but while Pitcairn had solely pointed out that the movement of the blood was made slower by dilatation of the walls of the vessels, Boerhaave taught that this congestion was caused by a contraction of the walls at a point.

The iatro-mathematicians rendered service to medicine—1st, by ascertaining many points which really require the aid of mathematics; and 2nd, by cultivating an exact spirit which could not fail to be productive of good.

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* The work of Bellini, de Urina Rae Pulsu, is well calculated to give an idea of the difficulties encountered at that time in the application of chemistry to medicine.

A reaction against both the chemical and mechanical schools was produced to a great extent by Stahl. Although the author of the theory of phlogiston, he was very much opposed to the use of chemistry in explaining physiology or medicine. He endeavoured to deduce everything from the operations of the principle of life itself. All minute anatomical or other knowledge of a refined kind, he considered useless in medicine. Chemistry, he said, could not throw the least light on the vital functions, for no chemical process takes place in the body, or any it does it is submitted to the vital laws. Thus we see, invariably, one extravagance beget another!

Stahl was continually holding up experience and observation, and taught the purest empiricism; yet, like almost all empirics, we find him occasionally indulging in extravagant hypotheses. Thus, he and his disciples placed the seat of many diseases in the *vena portæ*, because the blood moved slowest there: diminution of the tone of the vena portæ, and thickening of the blood there, in consequence of the dilatation of the vessel, was a great cause of disease. Stahl condemned *en masse* the whole chemical explanations of his predecessors; he would not allow chemical alterations of the blood in disease, or acridity of the humours in gout and rheumatism.

Stahl made great use of the doctrine of the *vis medicatrix*. Disease was a reaction of Nature against inimical causes. Thus, in fevers, all the symptoms are proofs of the excitement of tonicity by nature in order to expel morbific causes, and re-establish health. The frequent cures of chronic affections by fevers is a proof that they are really useful to health. The vitalism of Stahl had many distinguished followers. When we read the attacks which some of them have levelled against the chemical physicians, we see exactly where the difficulty lay—simply in the imperfection of chemical science; one party was too hasty in making the application of an imperfect science, while the others attributed to a radical defect in the method what was really due to the manner. Thus, Bordeu, in 1775, in a violent attack on chemical medicine, grants that the study of the elements which compose the animal humours is sufficiently important, but he considers it impossible for the chemical analysis of dead fluids, which out of the organism are submitted to laws altogether different from those which regulate them in the body, to furnish any indications for the treatment of disease.* Bordeu cannot see that, in such a case as this, the *onus probandi* lies with the other side. If I find a certain composition of the blood, what right have I to assume, without proof, the alteration of this composition in the living organism? This is a common fault of exclusive vitalists. Some time ago I was stating to a medical man the grounds there are for supposing that calomel is converted into corrosive sublimate in the system. "Oh," said he, "you cannot apply your chemical reasoning to the operations of the living body in that way." But if I know that calomel, in contact with muriatic acid and muriates, is converted, out of the body, into corrosive sublimate, and I also know that calomel will find these in the body, it is too much to tell me, without proof, because the body is alive, that *therefore* the ordinary chemical laws are suspended.

The effect of the doctrines of Stahl was so far beneficial in weakening or destroying the humoral pathology which was peculiarly favourable to speculation, and thus encouraging solidism. For solidism supposed pathological research in the direction of morbid anatomy. Chemistry was not yet able to execute the task to which she was to be ultimately called. Accordingly, towards the close of last century, we find the greatest minds turning gradually to the pursuit of morbid anatomy, and thus a basis was laid for the application of the means of more minute research which were being discovered.

Hoffman was another of the great theorizers of the last century. His doctrine was, that all diseases depended on faults of motion, which might be too strong or too weak. The excessive motions were spasms, slowness of movement, atony. Alterations of the humours could only arise from the spasms or atony which produced them. Thus he explains how congestion and inflammation may be produced in this way. Thus, if the spasms were to suspend the circulation in a part, and chase the blood with too great impetuosity into another, this fluid would get into vessels only adapted to carry serous fluids, accumulate there, and excite pain, heat, and swelling.

Some attempts were made to frame a system of medicine out of the Hallerian doctrine of irritability; but they hardly deserve notice in such a sketch at this.

Cullen may be regarded as the professed systematist of solidism. He preferred Hoffman to Boerhaave, and chiefly because the latter gave too much attention to the hypothetical alterations of the fluids; a modification of the views of Hoffman furnishes the well-known general theory of fevers of Cullen.

But we see in the writings of Cullen the vast progress that had been made in medical philosophy. Cullen, endowed with a brilliant genius, could not refrain from speculating; but his speculations are reasonable, and do not much dictate the law to his observations. The spirit of the inductive philosophy corrected his imagination.

The age of *weak means* was passing away, and from the beginning of the present century we may date the new era of medicine. A more exact morbid anatomy—the discovery of the active principles of remedies, of percussion and auscultation, the application of statistics, the chemical pathology, the microscope, and numerous other aids and appliances, have given great power to our art. Never did the medical profession deserve more thanks from the community at large than in the age of Jenner and Laennec, of Prout and Marshall Hall. It is strange that this very age should have witnessed the growth of the most enormous quackery which ever disgraced the history of mankind. The existence of homœopathy, and the belief in it by so many, is not a matter for ridicule alone, but for serious reflection. It is a dark page in the history of the human race.

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* Sprengel, Histoire de la Médecine, par Jourdan, t. iv. p. 256.

LECTURE VI.

Quackery: The New Spa, Newcastle.—Pseudo-Science: Phrenology, Mesmerism, Hydropathy, Teetotalism, Vegetarianism, Homœopathy.—Conclusion.

The tendency of mankind to favour quackery is a necessary consequence of the difficulties which attend the treatment of disease. Where legitimate medicine fails, the patient, tortured, probably, by the misery of deferred hope, with the dread of death perhaps before him, is easily induced to throw himself into the arms of the charlatan, who is ready to indulge him in unbounded expectations. The greatest medical men have always been the readiest to deplore the necessary imperfections of their difficult art, even while they were striving for its advancement with their utmost energies. How great a contrast does this candour present to the vainglorious boastings of the quacks!

But it is easy to show how much medicine has done. Hospital statistics are in existence, which prove, that in the same institution, where, about two centuries ago, one man in seven died, the deaths now do not exceed one in fifty.

But, prepared as we might be to anticipate the existence of quackery, the *extraordinary* proneness of the public to it is certainly a matter of surprise. Perhaps it arises, in great measure, from the ignorance of some of the sciences auxiliary to medicine which prevails. A moralist has remarked, that men are content to carry their minds like their watches, without any attempt to investigate the mechanism by which the work is carried on. But this moralist himself was probably content to live on in a body, of whose structure and functions he was ignorant.

"Man," said D'Alembert, "is fire for falsehood, and ice for truth;" and the readiness with which, in every age, mankind have believed in one gross delusion after another, certainly countenances the assertion, especially if we contrast this credulity with the reluctance with which great truths, like those taught by Copernicus, Galileo, or Harvey, have been received.

There is an anecdote of Mead, which I shall quote, as it is contained in a classical work.*

"A man of good education had become a quack, and had a booth in one of the most frequented streets of London. He calculated on the weakness and credulity of mankind, and made a most fortunate speculation. Mead, regretting that an intelligent man, capable of advancing truth, should degrade himself to such a trade, advised him to abandon it. 'How many men a-day,' said the quack, 'do you think pass through this street?' 'Perhaps 20,000,' said the doctor. 'And how many of these do you suppose possess the right use of their senses, and a sound judgment?' 'Five hundred.'—'The proportion is too great,' said the quack. 'A hundred, then.' 'Still too much.' At last they agreed to reckon them at ten. 'Let me alone, then,' said the quack; 'let me levy on these 19,990 *fools* the tribute which they owe me, and I have no objection to the ten having in you that confidence which most assuredly you well deserve.'"

Many sarcasms have been uttered against the medical profession; and as often, jocularly, by medical men themselves as by others. None was more forward to satirize our profession than Jean Jacques Rousseau, but he lived to repent bitterly of this injustice. Although he had suffered all his life from a painful and incurable disease, towards the close of his career, he said to the celebrated Bernardin de Saint Pierre, as the latter reports: "If I were to bring out a new edition of my works, I would alter what I have said of medical men. There is no profession which demands so much study as theirs; in every country, these are the men most truly and deeply learned and scientific."

Unfortunately, quackery exists in the profession as well as out of it: where there is a demand, there will be a supply. A deeply learned physician of the old school, now nearly ninety years of age, and long retired from practice, once told me, when we were speaking on this subject, "The fact is this—*Populus vult humbuggi, et humbuggendus est!*"

We often, in society, hear medical men praised for what, in reality, they should be condemned for. Thus, how often have we heard the trick of a celebrated fashionable physician extolled. Being of opinion that one of his patients, a lady of rank, required exercise, which she was unwilling to take, he took her out in his carriage, and having persuaded her to dismount, drove off and left her! It would astonish the popular admirers of this man, were they to read the expressions of disgust which the orthodox LANCET once thought right to utter in reference to this transaction: A physician should "know no legerdemain, do no conjuring tricks."

One extraordinary thing about quacks is their stolid indifference to praise or censure; so they procure publicity. A quack wrote to a friend of mine, the editor of one of our local journals, requesting him to insert a long and costly advertisement, conditionally that, at the same time, a puffing editorial paragraph was inserted. This my friend refused, on which the quack wrote to say that a good cutting up would answer quite as well, and he might insert the advertisement just the same.' This, also, the conscientious editor refused.

Public morality on this point is at a very low ebb. Some time ago a paragraph went the round of the newspapers, extolling the benefits of advertising, and giving as an illustration the extraordinary energy and skill of "Professor" Holloway. Apparently not the least idea was entertained by the writer of the article, or those who copied it, of the fearful immorality of quackery. Nay, as far as I can see, if "Professor" Holloway became only rich enough, he might be made a baronet as easily as Dr. Bright or Dr. Chambers.

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* Richerand. Erreurs Populaires Relatives à la Médecine.

As a most singular illustration of popular delusions regarding curative means, I shall relate an incident which happened in this town about ten years ago.

A new spa of wonderful merit was all at once discovered in a romantic dene near Newcastle. My attention having been attracted to the matter, I went to visit the spot, all the roads to which were covered with crowds bearing pitchers of water from the "spa," while hundreds were struggling and pushing which should be first to drink of the salutiferous waters. On making a rough examination of the water, I was amazed at the absurdity of the affair, and wrote a quiz of it in the *Gateshead Observer*, under the signature of "G." I jocularly hinted at the possibility of the medicinal virtue being owing to the drainings of certain dung-heaps. I did not long want an answer, being attacked in the *Tyne Mercury* by one who signed "Medicus," who called me a "wondrous boy and a would-be philosopher," and gave two reasons why the drainings in question could not flow into the "spa"—one being that the "spa" ran more than the drainings, and *therefore the greater could not hold the less;* the other being that the "spa" was lower than the "middens," so that, *of course, water could not run down hill!!* He then proceeded to extol the virtues of the "spa" to the highest degree. The mania increased to a prodigious extent, and was not by any means confined to the lower classes; five hundred people might be seen at once around the spot; and I am ashamed to say that some medical men were not bold enough to avoid countenancing the delusion. Upon this, finding the matter grow serious, I published an analysis of this interesting fountain, and showed it to be not quite so strong as some of the spring waters about Newcastle, with a mere trace of sulphuretted hydrogen, derived probably from the decomposition of sulphates by organic matters. A committee was then formed to investigate the matter, who, with characteristic rashness, commenced their investigation by publishing a list of wonderful cures performed by the water, including one of "stoppage of the windpipe." However, they made some investigations, to ascertain the source of the water, and stopped up sundry holes, by which it might be contaminated from a brook near, which is little better than a common sewer, and the result was a *stoppage* of the water, until some heavy rains forced a passage. This was too much even for the madness of the "spa" goers. Now, not a solitary votary ever visits the neglected spot, and the poor Naiad sits in melancholy seclusion amid the ruins of the temple erected to her. But the majesty of popular opinion cannot be affronted with impunity; and when all was over, poor I, who had been nearly a martyr in the business, actually got the credit of having *puffed off* the "spa"![*]

Under the head of pseudo-science, I propose to treat, in a summary manner, of the merits of Phrenology, Mesmerism, Hydropathy, Teetotalism, Vegetarianism, and Homœopathy.

1. *Of Phrenology.*—Some may be surprised at my placing phrenology at the head of this list. I admit that a phrenologist has the disease which disposes a man to believe in these false sciences in a mild form; but he is in a condition of mind fit to go on. He has consented to believe in doctrines established on insufficient grounds; to pin his faith to certain *dogmata* as matters of *belief*, and to square all facts which come in his way to the principles of his creed. I have not space to enter into the estimation of the amount of truth which there may be in phrenology, by which I mean the doctrine of Gall, Spurzheim, and Mr. Combe.[†] But I shall make some general objections, which will show how far I am in error in terming it on the whole a false science.

From the very beginning it was easy to observe the tendency of phrenologists to take note of all positive facts, and to disregard negative ones, to avail themselves of whatever favoured their doctrines, and to ignore all that was opposed to them. If a man had a certain part of the skull, which they call an organ (for corresponding *organs* in the brain there are none) largely developed, and a corresponding manifestation of the mind or propensity belonging to it, then the fact was loudly proclaimed, and that without much reference to anything that might account for the character in the temperament, circumstances, or education of the individual. But if the contrary were the case, if the development of the alleged organ and its manifestation did not coincide, then everything which could be brought to bear was dragged forward, in order to account for the discrepancy. Many instances of this kind might be cited. I shall quote one as an example, and an illustration of the kind of proof, as regards application to facts on which phrenology reposes. And here it may be remarked, that it is of little use trying to prove or disprove phrenology from the evidence afforded by ordinary characters, since it is almost impossible to tell what an ordinary man's real or native character has been amid the influences to which we are all subjected. The very thief in jail may have been a better man naturally than a lord-mayor of London, or a monarch upon the throne. The best evidence of the kind we can get, is that, perhaps, which is derived from the study of history; and here again we are beset with a thousand difficulties. However, let us proceed.

The bones of King Robert the Bruce were discovered in his tomb at Dunfermline, and phrenologists have his development. According to Mr. Combe,* he had the organ of *combativeness* large, *cautiousness* large, *veneration* large; of *benevolence* I find no mention. Mr. Combe considers this to be in accordance with the character of the man as revealed to us by history. As far as combativeness is concerned, the conclusion may be granted; and it would be difficult to find a single baron in that warlike age whose character would not warrant a similar influence. If Robert Bruce indeed had been a man of feeble stature, instead of gigantic frame and strength, then the exhibition of combativeness in him would have some value; as it is, the fact is worthless. Then, as a proof of his excessive veneration, Mr. Combe reckons the ordering his heart to be sent to the Holy Land. What does this signify? Had Robert Bruce, in that age, himself conducted a crusade, and sacrificed his personal ambition—had he obeyed the edict of the Pope, instead of resisting it—had he refrained from stabbing the Red Comyn in a CHURCH—there might have been some evidence of his veneration. But to pretend, in that age, when it was common for nobles to bequeath houses and lands for the sole privilege of being buried in the robes of the Hospitallers and Templars, to derive anything in favour of the veneration of Robert Bruce from his dying act, is absurd. Then with regard to his cautiousness and benevolence. Had his cautiousness been small, Mr. Combe would have considered his encounter with Bohun, before the battle of Bannockburn, taking into account his large combativeness, a sufficient justification, so far, of phrenology. But surely his benevolence should have been enormous, since he, a king and a general, in spite of his cautiousness, risked the defeat of his whole army in Ireland, rather than desert the wife of a common soldier, suddenly seized with the pangs of childbirth! Upon such as this, and slighter facts, is this alleged science chiefly founded.

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[*] It is very extraordinary that there are really near Newcastle waters well worthy of attention, and which never excited the least *furor*. In all these matters mystery has a great charm. The very out-of-the-way composition of the "spa" was likely to lead people to believe in its possession of some mysterious virtues. I was credibly informed at the time, of one man having drunk in the course of a forenoon forty tumblers of the stuff, which looked just like dirty rain-water!

[†] I had delivered before many of the audience two lectures on phrenology, some time before, in the same place.

Again, it may be denied that many of the phrenological organs really represent functions of the mind, or of the brain; many of them correspond to mere manifestations which may arise from the most complex motives. Many of them are propensities which exist in animals without brains, and even in plants.

I cannot see, if there be an organ of locality, why there should not be, according to the phrenological way of going to work, an organ of love of home. If a man manifests any particular tendency, a phrenologist goes and lays his hand on his head, and finding one part bigger than another, exclaims, "This is the organ!" It is well known that many men have a passionate attachment to the place of their birth, while others have no such feeling. Anything connected with the organ of locality itself will in nowise account for this feeling. I ask this question—Have the Swiss troops in the service of the King of Naples, whose bands dare hardly play the airs of Switzerland, without exciting feelings of longing for home among the soldiers,—have they the organ of love of home—as good an organ as any phrenological one with which I am acquainted,—have they this organ more highly developed than the troops of any other nation? It would be easy to prove, from the works of phrenologists themselves, that their conclusions from the skulls of various nations, with regard to national character, are entirely erroneous.

There are no divisions in the brain itself corresponding to the phrenological organs. The very attempt to show that some of the convolutions faintly correspond to the phrenological divisions only shows the weakness of the system, since, according to this, corners of convolutions must be cut across by the phrenological lines as remorselessly as an American carries his boundaries across rivers, seas, lakes, and mountains, in one straight line.

But there are real anatomical divisions in the brain, of which phrenology takes no note; and, as far as experiments on animals are concerned, and pathological facts also, everything tends to show that the functions performed by parts of the brain anatomically distinct have nothing in common with phrenology, except, perhaps, the single fact of the grey matter of the *cerebrum* being the organ of perception, judgment, and volition.

Experiments on animals show that the cerebellum, esteemed by phrenologists the stronghold of their doctrine, does not perform the functions which they ascribe to it, and performs other functions which they do not place there at all.

The phrenologists themselves are obliged to admit that the power of an organ may depend on its intensity as well as its quantity; and how are we to judge of the intensity? It is plain from the admissions of phrenologists themselves, that a man with a small organ may have more power than another with a larger one. How, then, are we to judge of the truth of phrenology by measurement of skulls?

Then Dr. Skae, by adopting a more scientific mode of measuring the head than that in ordinary use, has shown, it appears to me, the *utter fallacy* of the alleged science. It is true, Mr. Combe objects that Dr. Skae's mode is not that adopted by phrenologists. This, if it mean anything, means that the phrenologists are to have their own way of measuring the head, and their own way of estimating character, and then undertake to make a science.

How are we to judge of the true character of a man? Suppose two men pass a beggar in the street. One of them gives him alms, and the other declines. Which of the two has more benevolence? A superficial observer would say the giver; but the alms may be conferred from carelessness, from the wish to be relieved of importunity, from the mere redundance of a full pocket; and may be refused from a conviction that the gift, in the long run, may do more harm than good, or from a sense of justice, which reflects that the alms cannot properly be afforded. Now it appears to me that out of such conflicting circumstances, phrenologists always reserve to themselves the power of choosing or rejecting what respectively favours or opposes their views. By such evidence you can prove nothing, least of all an alleged science, which stands in opposition to anatomy, physiology, and pathology.

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* System of Phrenology, ed. 1825.

2. *Mesmerism.*—I shall not attempt, out of the vast mass of materials, to extract the amount of truth which exists in animal magnetism, but shall confine myself to the relation of some facts which will serve to show the extreme amount of caution which is required before we should give our assent to such marvels. Impostors like Mesmer have existed in all ages. Apollonius of Tyana was believed to have restored sight and raised the dead. In the time of Richelieu, there were the convulsionaries of Loudon, whose tricks brought Urban Grandier to the stake. Just before the appearance of Mesmer, there occurred the miracles which began at the tomb of the priest Paris at Saint Médard, and which, after the cemetery was shut up, were continued in private houses. These performances are as well authenticated as any of the facts of mesmerism. A councillor of the parliament of France presented an account of them to the king! Of what kind they were will appear from the following:—"A young girl of twenty-two or twenty-three years, erect, and with her back against a wall, had administered to her as *alms* a hundred blows of a *chenet*[*] weighing thirty pounds: she could only be *comforted* by violent blows. Carré de Montgeron took it in hand to administer them: he had already given sixty; but the sister found them *insufficient*, and a more vigorous man began to administer the blows which she yet wanted. However, Carré de Montgeron, in order to be sure of the force of his blows, started to batter a stone wall with his *chenet;* at the twenty-fifth blow the wall was shivered to pieces!"[†]

I should like to ask the magnetizers why somnambulism was not produced by Mesmer? The history of mesmerism before the Academy of Medicine of France is peculiarly instructive. At one time a favourable report on it was submitted by M. Husson; and at length, after the exposure of a pretended *clairvoyante*, in 1840, the Academy, on the proposition of M. Double, resolved to have nothing more to do with the subject. Behold in what terms the dupe of an unmasked imposter speaks:—"I am horrorstruck, *murdered*, confounded by all that you have made me see this morning. Four years of cunning! What audacious perseverance! Oh! she is a mistress of a woman, this Mlle. Emilie! But you also are a master who have unmasked her in four days."

I am myself acquainted with an instance where a somnambulist, in Paris, after deceiving thousands, was discovered to be an impostor. Look at the sham phreno-mesmerism. No sensible man could even witness the performances, which appeared so convincing to the vulgar, without being certain that the whole affair was a hoax.

In regard to such matters, then, let us suspend our belief—let us wait; and for my part I shall probably be content to wait the term of my natural life before believing many of the marvels of animal magnetism.

3. *Hydropathy.*—With regard to this quackery, we cannot doubt but that there is power in it. The virtues of bathing will be found as well stated, by Sanctorio, in his "Medicina Statica,"[*] as could now be done. But there is no reason why what is beneficial in the application of water should not be pursued under the direction of medical men, and combined with suitable treatment. A great many of the pretended cures at hydropathic institutions are doubtless due to other causes than the treatment, while the mischief done is concealed.

4. *Teetotalism.*—The assertion made by the teetotalers, that alcohol is poisonous in all doses, in the sense in which arsenic and prussic acid are poisonous, is rank quackery. Alcohol, in small quantities, is an aliment, which the common poisons never are. Cold water itself might be made to be a poison, reasoning after the teetotal fashion.

5. *Vegetriaanism.*—This is a harmless delusion. No doubt bread contains the chemical elements which the body requires; but I shall cut this matter short by remarking, that as we *must* kill animals, in order to prevent them shoving us out of the world, we may as well eat them into the bargain.

6. *Homœopathy.*—But all the false systems and all the quackeries that ever did prevail, or, I believe, ever will prevail, are eclipsed by one so absurd that the human mind itself cannot measure the extent of its monstrosity—this is the offspring of Samuel Hahnemann. In speaking of him, we might address all the quacks from Apollonius of Tyana to Mesmer, in Wotton's lines to Elizabeth of Bohemia:

> "You meaner beauties of the night,
> That poorly satisfy our eyes,
> More by your number than your light!
> *You common people of the skies!*
> *What are you when the sun shall rise?"*

The author of this system was born in Saxony, in 1755, studied at Leipsig and Vienna, and graduated at Erlangen. It is curious that from about the same region we should have derived these three transcendant geniuses—Gall, Mesmer, and Hahnemann.

The last named appears to have been a somewhat learned physician, and we may presume, without offence, unsuccessful in practice. Without offence, certainly, since learning and science have little or nothing to do with success in practice.

The greatest moralist of modern times, Samuel Johnson, has said that a physician in a large town is the mere sport of fortune; those who employ him and those who reject him are alike ignorant of his defects and his merits. But what is the duty of one placed in the position of the inventor of homœopathy? It is not his duty to quit the standard of his profession, and start a new system to catch the credulity of the vulgar. It is true, that by such a course he is almost sure to realize a fortune; and the example of Hahnemann shows us that the greater the absurdity the more sure the success. But Science has had its martyrs as well as Religion; and in such cases a conscientious man should resign himself to his destiny, and say to Fortune, with Horace—

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[*] A kind of andiron, on which wood is burned.

[†] Histoire Académique du Magnétisme Animal.

[*] Sect. 2 Of Air and Water, with explanations by Quincy. Lond. 1728.

> "Laudo manentem, si celeres quatit
> Pennas; resigno quæ dedit, et mea
> Virtute me involvo, probamque
> Pauperiem sine dote quæro."

But Hahnemann imagined, and gave to the world a system which has not an atom of common sense in its composition—so totally absurd, that a single ray of rationality might have served to make the darkness visible. It is difficult to reason on such a subject When a man takes refuge in an absurdity, he is beyond the reach of argument. I shall proceed to expose the doctrines of homœopathy, and then briefly refer to the alleged cures of disease which it is said to have produced.

Hahnemann, then, disgusted, as he says, with the results of ordinary treatment, was led to the discovery of an infallible mode of combating disease. The fundamental principle of his doctrine is, that like cures like; and so he called it homœopathy, from the Greek, *homoios*, "the same," while the nick-name of allopathy is given by his followers to the divine art of medicine. Hahnemann maintains that diseases are cured by remedies which would, especially in health, used sufficiently, bring about symptoms similar, or, as he afterwards modifies his views, analogous at least to the diseases which they cure. In support of this view, homœopathists allege a few vague facts, all susceptible of explanation, on the Hippocratic axiom, "contraria contrariis curantur," or else absolutely false.

Thus the cure of intermittent by cinchona is accounted for on the supposition that the remedy can in health occasion symptoms similar to those of ague. Now this is not true. Bark does not produce symptoms like those of ague. It is true in large quantity it does produce some febrile symptoms, and, on the homœopathic principle, it should be a specific in common continued fever rather than in intermittent.[*] Then the workmen in quina manufactories are subject to a cutaneous eruption. Quina, therefore, should be a specific in skin disease! Does arsenic, which also cures intermittent, produce symptoms like ague in a previously healthy person?

To cure disease in an organ, we have often of course to administer a remedy which has some kind of action on the organ. Thus, strychnia, which can produce paralysis, is given in paralysis. But, in fact, the action of strychnia is to destroy the influence of the will, but to exalt the sensibility of the true spinal system; and it is given in a case of atony to *rouse* the spinal cord. As a specimen of the loose assumptions on which homœopathy is founded, take the following:—"Among the disorders which belladonna provokes in a healthy man, are symptoms, which, put together, resemble very much the hydrophobia produced by a mad dog—a disease which Mayerne, Munch, Bucholz, and Neimike, have really and perfectly cured by this plant."[*] So that we need no longer be afraid of this terrible malady! But I may certainly congratulate myself on having discovered a remedy for hydrophobia; for I have been making some experiments on animals lately with picrotoxia, and I find this substance produce symptoms very closely simulating hydrophobia.[†]

When a substance like nitrate of silver is used to cure inflammation, which it will produce when applied to a healthy part; it is to cause the dilated vessels to contract, and so restore the circulation; the after processes of suppuration &c. depending on the blood-globules being separated from the general circulation, and taking on a diseased action of their own. This, therefore, is the very reverse of *similia similibus curantur*.

One of Hahnemann's illustrations is the following:—"The cook who has burnt his hand presents it to the fire, at a certain distance, without paying any attention to the increase of pain which results at first, because he has learned, that in doing so, in a short time after, in a few minutes, he will perfectly cure the burn, and cause it to disappear, without the least trace of pain."[‡]

"Un peu de vérité fait l'erreur des vulgaires." Let us hear Dr. Billing's explanation of the same fact. "The same observations are applicable to the blush produced by heat from a fire; and we have a proof that this is the effect of nervous influence before injury or alteration of the structure of the vessels, by the common experiment of those who have resolution to hold the burned or scalded part to the fire, and remove it gradually, which will prevent the disorganization that would otherwise take place—in common language, prevent blistering. The mischief is caused by exhaustion of the nervous influence; the sudden removal of the excitant leaves the capillaries destitute, and they *yield* immediately to the *ordinary injecting force;* but if the excitation be renewed by holding the part to the fire, nervous influence is supplied from the neighbouring parts to the capillaries, with pain certainly, but by slowly removing from the heat, the nervous influence will be gradually supplied, till the excitant be reduced to a natural standard, relieving the pain and incipient inflammation."[§]

Similar explanations may be given in other cases. As to the alleged foundation of homœopathy on experiments on healthy persons, I make this reply:—I deny totally that allopathic doses will produce the symptoms generally described by homœopathists; and as for homœopathic doses, a healthy man may swallow the whole pharmacopœia with perfect impunity; it is therefore unnecessary to enter into any account of the horrible and disgusting twaddle which constitutes the physiology of medicines of Hahnemann.

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[*] See Dr. Wood's admirable exposure of Homœopathy.

[*] Hahnemann, Exposition de la Doctrine Médicale, &c., p. 74.

[†] I expect shortly to communicate these experiments to the Medical Society of London.

[‡] Exposition etc., p. 104.

[§] Principles of Medicine, pp. 28, 29.

The next branch of the doctrine is the theory of small doses. It is difficult to make the public understand that it is impossible, by any refinement of chemistry, to detect anything except the vehicle in the homœopathic medicines properly prepared; although some of the homœopathic medicines have been found to contain poisonous doses. A fact has come to my knowledge. A London wholesale druggist informed one of the most respectable citizens of Newcastle a few days ago, that his firm manufactured sixty pounds' weight of homœopathic drugs every fortnight, and sold them to the various homœopathic institutions; and that they were so well aware of the farce, as never even to attempt the troublesome mode of manufacture required by homœopathy; so that the drugs really and truly contain nothing.* To show how little the public can estimate the absurdity of the homœopathic doses, a layman wrote lately to the *Medical Gazette*, pointing out the poisonous effects of small doses of lead as a corroboration of homœopathy. But the smallest dose of lead likely to have an effect is, in comparison with the homœopathic doses, like a mountain to a molehill.

I once heard the law of infinitesimal doses compared to the law of gravity? Much gravity was required to make the comparison. In the law of gravity a relation exists between the masses and the forces. But homœopathy requires us to divorce the relation which we are compelled to believe in between quantity and quality.

But then it is said they make cures. But there are the strict diet and the imagination to account for these. The history of Perkins's metallic tractors may serve to show what the mind will do. Sometimes, too, an overdrugged patient may be benefited by the mere absence of treatment.

Absurd as are the doses, the PATHOLOGY of Hahnemann transcends even his therapeutics. The following choice *morceau* should be printed in large letters in every homœopathic institution. "It is only after having infected the entire organism, that the ITCH announces its immense internal chronic *miasma* by a cutaneous eruption quite peculiar, accompanied by an insupportable itching, and peculiar odour. This itch is the true fundamental and producing cause of the innumerable morbid forms which occur under the names of nervous weakness, hysteria, hypochondriasis, madness, melancholy, dementia, rage, epilepsy, and all kinds of spasms, softening of the bones, or rickets, caries, cancer, dropsy, spitting of blood, asthma, deafness, cataract, paralysis, &c."† He adds in a note that it has cost him many years' research to discover this great truth, unknown to his predecessors. Mercy on us! What a state poor Sawney must be in? But we know that the itch is dependent on a parasite, and has nothing on earth to do with any of the diseases with which Hahnemann connects it. It is enough to make one's blood boil with indignation, to know that in the nineteenth century this drivelling idiocy has been taken for the oracles of Science—to be told that the images of the immortal benefactors of mankind who have adorned our profession are to be displaced from the temple of Fame in favour of Samuel Hahnemann!

In conclusion, there are certain tests by which false sciences may be recognized. One is, the fanaticism of those who are believers in them. Yes! they believe—they do not reason. They believe in Hahnemann as the Mormonites do in Joe Smith.

True science is of slow growth, like the majestic oak which has withstood the storms of a thousand winters; but these false sciences are like mushrooms, they spring up in a single night. The day before, you saw them not; and the day after, you may look for them in vain. False science is like the meteor, which flashes for a moment, and then is buried in the gloom of everlasting night. True science is like the star, which may indeed be obscured by a passing cloud, but which will continue to shine on for ever in the firmament of heaven.

# NOTES
FROM
A COURSE OF LECTURES
Delivered at St. Thomas's Hospital,

BY GILBERT MACKMURDO, ESQ., F.R.S.,

Surgeon to that Hospital,
and to the Royal London Ophthalmic Hospital.

LECTURE XV.

Cataract: its Treatment by Depression, or Reclination, Solution, and Drilling, &c.; Artificial Pupil.

GENTLEMEN,—Having when we last met fully described the operation of extraction, I proceed this evening with the remaining forms of operation put in practice for the cure of cataract. Couching, or depression, are the terms used for the simplest mode of removing the lens from its natural position, and sinking it into the vitreous humour, behind the iris, and below the pupil, so that it should not interfere with the vision of the patient. You have to take many points into consideration when you are about to effect this change of position of the lens; if from over anxiety you depress it for a considerable distance, you will cause it to press on the retina, or ciliary processes, and vomiting will most probably occur, followed by severe inflammation; and if, from wishing to avoid this fault, you merely depress it to a very moderate extent, the lens will in all probability present its upper edge above the lower margin of the pupil, and also it is very likely to incline forward and rest against the back of the iris, thus giving rise to chronic iritis; likewise it will frequently reascend, during the act of vomiting, having been very slightly covered by vitreous humour. The modification of this operation termed reclination, was proposed in order to avoid some of these difficulties and evils. The lens is then pushed backwards, and the anterior surface is made to look upwards, and the posterior surface becomes the inferior one; and although, in this operation, the vitreous humour is to a greater extent interfered with and displaced, yet of the two operations, it is generally acknowledged to be the preferable one, as it is not so likely to give rise to retinitis or iritis, by pressure on the retina or iris, and as the lens is more likely to remain in its new position than if it had only been depressed vertically. I have examined eyes many years after these operations, and have seen the lenses, which had been very firm, preserving their shape, and remaining in the vitreous humour as they had been placed at the time of the operation: on the other hand, I certainly have often known them to reascend either immediately, or within a few days after an operation.

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* If this fact be disputed I have no objection *privately* to give the Editor of THE LANCET a reference to the party who informed me.

† Exposition, etc., p. 17.

I should never think of performing either of these operations, unless the cataract were hard and firm, and the operation of extraction was contra-indicated by circumstances to which I formerly alluded; as, for instance, if the iris was adherent to the capsule, if the eye was very deeply sunken in the orbit, if there was a very small anterior chamber, or if there was a very contracted commissure of the lids. If the globe was flaccid and evidently diseased, or if, from the debility and want of power of the patient, it would be probable that the section of the cornea would not unite kindly, if at all; or if he had much cough or cold, which last circumstances are exceedingly important, inasmuch as the patient would almost inevitably lose his eye were he to have a fit of coughing soon after an extraction; the humours of the eye would most probably be discharged, and the eye become, as it were, emptied of them at once. I have known this occur in different degrees, even many days after the cataract had been extracted, and when the section had been supposed to have been firmly united. It is essential that the pupil should be well dilated by belladonna before you proceed to operate, and the patient should be placed in a sitting posture, and in a lower chair than the operator sits on. Very many forms of needles are used for these operations by different surgeons; some use this long needle, with a curved end, of a diamond shape, so that its concavity should rest against the front of the lens; others use a small, short, round and straight needle, such as I now show you, and gradually insert it by a drilling motion from the outer edge of the lens slowly through it, and thus gain a command over it; and when they wish to remove the needle, having displaced the lens and kept it in its new position for a few seconds, they use the same twisting motion of their finger to bring it out after the operation is complete. The needle most frequently used by us is this, which is called Scarpa's needle; it is slightly bent at its end, which is not very broad, and is sharp at its sides. I have seen the operation performed through the cornea, because the surgeon has wished to avoid wounding the sclerotic and subjacent parts; but I have seldom known this operation prove a satisfactory one. Sometimes the iris has been pressed on by the needle; sometimes the needle has pierced the lens, and several fruitless efforts have been made to depress it: the intention has been good, but the effect has generally been the reverse where I have seen it performed; and the preferable operation is that wherein you introduce the needle through the sclerotic, choroid, and subjacent parts. In this operation, you must generally depend on an assistant, who ought to support the patient's head against his breast, and to elevate gently with his index finger the upper lid, without causing too much tension, and thus giving the patient pain by the stretching of the lid; in some cases, the operator may, with the thumb of one hand, elevate the lid, whilst he operates with the other. I have done this when I have not liked to trust the assistant: it is very seldom necessary to use the speculum for this purpose, but it may be so if the brow is very prominent and the eye is very deeply placed. Take the needle in your hand, as you would a pen; let your little finger rest gently on the cheek of your patient, and pass the needle before the eye once or twice, so that you may know that your hand is properly situated, and that you hold your needle at a proper length; then, steadying the eyeball slightly with the finger of your disengaged hand, you introduce the needle through the conjunctiva, sclerotic, and choroid, into the vitreous humour. This opening is to be made on the temporal side of the globe, about two lines, or rather less, from the cornea. You have to avoid wounding the retina, ciliary processes, and particularly the long ciliary vessels, and therefore you are generally directed to operate a little below the equator of the globe; but as these divide at a little distance from the cornea, some authorities recommend the puncture to be made exactly in the equator of the eye, for the purpose of avoiding the wounding these vessels. I have generally adopted the former point which I mentioned for the introduction of the needle. Having, then, pierced these parts with the point of the needle directed towards the centre of the vitreous humour, turn the instrument so that its convexity shall face upwards, then pass it onwards behind the iris, in front of the lens and its capsule. Thus far, the operation for depression or reclination would be similar. For depression, you would now have to elevate the needle and lacerate the capsule, and, resting the concave side of the needle on the upper edge of the lens, you would have to depress it gently and slowly; when the cataract was fairly below the pupil, you should keep your needle in it for a short time, and then relaxing your pressure, you should observe if it was inclined to reascend; if not, you might gradually withdraw the needle; but if the cataract should be observed to be rising again, before your needle was removed, you should again depress it and place it farther backwards. I recollect, during this operation, the danger I warned you of, as to the letting the lens press on the iris, the ciliary body, or the retina.

Numerous cases are recorded of the examination of eyes where the cataracts had been depressed, and where, in twenty or thirty years afterwards, the lenses were found unchanged, sometimes lying flatly in the vitreous humour after reclination: in other cases, as after simple depression, they were resting against the iris; and in many of these last cases the eyes had slowly become amaurotic. But other cases are also mentioned wherein the lenses have become partially or totally absorbed, after a lapse of several years; in these cases, it appeared that the capsules had been thoroughly lacerated, and the lenses had been completely exposed to the aqueous humour; whilst in some of these cases, wherein the cataracts were unchanged, the lenses were lying in their capsules. Occasionally, after depression or reclination of a cataract, some portions of the lacerated capsule will cause much inconvenience to the patient and vexation to the surgeon; they will interfere at one time with vision, and then disappear, and reappear again. The best cases are those in which the capsule is, in a great measure, if not entirely depressed with the lenses. For I mentioned in my last lecture, that we have, by long experience, good reason to believe that the capsule does not become absorbed. With reference to the removal of these fragments, I shall make some observations after considering the other needle operations. I have sometimes found, when performing the operation for reclination, that the lens was softer than I could have anticipated, and that my needle passed into and almost through, its substance; and I have at once, in such cases, changed my purpose, and used the needle as for solution, so as to get rid of a considerable part by absorption; this has occurred soon, and a second or a third operation has completed the cure. Of course, I am referring to patients in whom, from the ages and the appearance of their lenses, I had been led to expect that their cataracts were too firm for such an operation. At the point where the needle is introduced, occasionally a thrombus, or even a fungous excrescence appears, which needlessly alarms bystanders; the former will disappear of itself, and the latter may (if it does not diminish soon) be touched with caustic. If the lens should be disposed to pass forwards through the pupil, and appear to be pressing against the back of the iris, and if you cannot succeed in the attempt to push it clearly away from the iris, it would be better, at all hazards, to extract it at once, than to leave it in that dangerous position, where it would inevitably give rise to serious inflammation. You need not make a large section of the cornea for this purpose; and it would be better to extract the lens in such a case by means of this fine hook, which I showed you before, than to use any pressure on the globe, which might be fatal after the attempt has been made at reclination of the lens, as the vitreous membrane must have been thereby ruptured, and consequently all this humour might flow out under the slightest pressure. If, during the operation of reclination, any blood should escape into the chambers of the eye, you need not be alarmed, as it will, in all probability, be very soon absorbed.

I have sometimes seen patients suffer very much with vomiting during the first twenty-four hours after the lens has been displaced; this ought to be checked as soon as possible. If inflammation of the retina or iris should supervene, you must treat the patient in accordance with the directions I have given you in former lectures. Very generally the patients will exclaim with great delight, directly after their cataracts have been displaced, that they see surrounding objects very clearly, and it is as well to let them enjoy this one feeling of satisfaction, and then to direct them to close their eyes quietly, and not to reopen them until you shall have given them permission to do so; they should either sleep in an arm-chair for the first night or two, or they should have their head very much raised in their bed. The room must of course be kept darkened for some few days, and they may gradually be permitted to open their eyes, at intervals, in a very modified light. The operation for solution or absorption of a cataract is said to have been introduced in consequence of the lenses having gradually disappeared in certain cases wherein ineffectual attempts at depression had been made; and the celebrated names of Pott and Hey are generally quoted, inasmuch as they are said to have been the first surgeons who attempted this operation, having observed the effects I have just mentioned; and it was remarked by these surgeons that those cases succeeded best in which the operator did not attempt too much at once. This we find to be true in the majority of cases; the capsule has to be lacerated in the first instance, and then the lens will be submitted to the action of the aqueous humour; and at subsequent operations, the lens itself has to be divided or broken up by the needle until it has entirely disappeared. It would be unwise to attempt such an operation in a very elderly person, or in any case wherein the lens appeared to be decidedly firm and hard, although some cases have occurred, as I have previously stated, wherein depressed lenses in elderly persons have disappeared, and in some few cases which have been examined after death, the lenses have not been discovered.

The time occupied for the entire absorption of a cataract varies generally with the age of the patient. I have known one operation suffice for an infant, and a few days have only elapsed before the cataract has disappeared. If the soft lens had been pushed forward into the anterior chamber, (which is a dangerous process in an adult, as it may produce inflammation and much suffering,) on the other hand, the process of absorption may occupy many months. It is very desirable that you should not displace the lens when you first lacerate the capsule, as you might thus cause it to advance, and press against the iris; and it is universally found that those cases succeed best, wherein by doing very little at each operation, the surgeon avoids exciting inflammation. Whether the lens be absorbed, or dissolved, in the aqueous humour, is considered an open question; but we certainly do find, that the process goes on much more rapidly on fragments which find their way into the anterior chamber, provided the patient be so fortunate as to escape inflammatory action, which I have sometimes seen productive of permanent mischief in such cases. The capsule which has been freely lacerated corrugates, and is generally thus removed from the pupil; and hence the importance of freely and fairly lacerating this membrane, (which I told you we believe does not become absorbed,) in such a manner that its divided portions may, as it were, pass to four different positions; but of the mode of effecting this event I shall speak presently.

The two operations practised for effecting the solution of a cataract are usually termed the anterior and the posterior operation, accordingly as the needle is passed through the cornea (*keratonixis*) or through the sclerotic and the subjacent parts, which operation has been termed *hyalonixis*, merely because the vitreous or hyaloid membrane is pierced by the needle.

The anterior operation is said to have been introduced by Conradi, a German, and afterwards into this country by Mr. Saunders, who deservedly gained a great reputation by his operations on infants affected with cataract. The pupil should be well dilated by belladonna, and it is better that the patient should recline on a sofa, and the surgeon may sit behind or before, and on one side of him, as he may prefer to use one hand or the other. I generally place myself behind the patient. You will require a straight needle without cutting edges, and so made that it should fill up the opening in the cornea as it advances. The needle may be held and the eye-lids fixed in the manner I have before directed, and the cornea should be pierced on its temporal side, and very near the sclerotic, by the needle with its flat side towards the iris; it may then be advanced to the capsule, which should be lacerated gently, first by a vertical and then by a transverse motion of the point, without, in general, interfering with the lens itself in any way. This operation is not at all painful. The patient may then retire to bed, and the extract of belladonna should be very freely applied all around his eye. A piece of dry linen rag should be lightly placed over each eye. The diet should be low; the condition of the bowels ought to have been previously well attended to. Some of our hospital patients, after lying down for a few hours, experience no inconvenience, and get up and go home; others suffer much, and it is found necessary to confine them to their beds, and to dark rooms, for some days. Very generally a second operation may be performed with advantage at the expiration of five or six weeks, and the number of times that the surgeon may have to repeat a needle operation varies much, just as the lens varies in its consistence. At the second operation the needle may be used rather more freely, thus breaking up the anterior portion of the lens, and so on, until the whole lens has disappeared. Sometimes, where there is a milky cataract, the aqueous humour in the anterior chamber will become quite turbid directly the capsule has been lacerated, and we are always prepared in such an event for a succession of fits of vomiting. Sometimes when the needle has pierced the lens, and when the surgeon is about to withdraw it, he finds the lens is likely to pass forwards with the needle; but it is highly important to prevent this taking place, and the needle should in such a case be quickly rotated, and thus disengaged; and if the lens should still be likely to pass forwards, the surgeon should take care to press it delicately into its natural situation, and leave it there, and the patient should remain on his back for a short time to favour such a position of the lens. If the aqueous humour should suddenly escape when the needle is for the first time introduced into the cornea, the iris will generally fall forward, and it is desirable to withdraw the needle, and wait for a few days, when the eye may be less irritable, and the operation may be performed satisfactorily; or the pupil may sometimes contract suddenly when the cornea is punctured, and in such cases the same postponement is desirable, unless the eye should again contract and present a dilated pupil: the escape of the aqueous humour may have been the fault of the needle or of the operator, &c.; and if the lens should become dislocated by accident during the operation, it is better to extract it at once.

I have occasionally seen corneitis, and even iritis, of an obstinate character, follow keratonixis in strumous patients, and this has occurred even where the operation has been performed most skilfully. In performing the posterior operation the more important parts are wounded, as in the posterior operation for depression or reclination; and a straight needle is generally used, the edges of which are sharp near the extremity. The needle is to be introduced in the manner I described for depression, and at the same point of the sclerotic; it may be passed across the pupil, and through the capsule, and also vertically, and in some cases the anterior surface of the lens may be delicately scratched with the end of the needle. If, by inadvertence, the point of the needle should have passed at once into the edge of the capsule, and thus in front of the lens, it has been found desirable to withdraw the instrument partly, and pass it in front of the capsule, and then lacerate it. It sometimes happens that the greater part of a cataract is absorbed, and that a small hard nucleus remains; and this fragment is likely to fall into the anterior chamber, and cause inflammation. I have seen this occur, and it has been then extracted, and the case has thus terminated favourably. It is to be expected that more suffering, and probably inflammation, should follow the posterior than the anterior operation, and this is generally the case; therefore the surgeon should be on his guard, and watch every bad symptom that may arise, so as to check it early. After several needle operations, the iris is occasionally tremulous and flaccid, and less active, and in some instances it has been found that the retina has been somewhat impaired, and all this occurs in cases wherein no inflammatory action has appeared.

Congenital cataract may be lenticular only, but it is generally capsulo-lenticular; the opaque lens is often entirely, or in a great measure, absorbed, and then it exists only as a thin fragment of the lens. Sometimes there is a small, central, dense white spot in the lens, surrounded either by the remaining transparent portion, or by it, in an imperfectly opaque state; this is a very common condition, and when belladonna is regularly used in such cases, the patients see tolerably well through their imperfectly opaque lenses.

I mentioned in a former lecture, that children often become cataractous after infantine ophthalmia, and some authors throw out a doubt as to children ever really having congenital cataracts. This we know, that we see them thus affected at very early ages, and that we are told they were born in that condition. When the lens is absorbed, the capsule often presents a very tough membrane, and this is a very common condition with children's cataracts, when they have not been treated at an early age. Their degree of vision varies very much. Those who have grown up, without having been attended to, and yet seeing moderately, will be most assisted by the use of belladonna. You will recollect the history of the family thus affected, whose cases I related to you; they all see well now, through portions of their lenses, which are only imperfectly opaque, and it would be cruel to propose an operation for them, as we might set up an insidious but destructive inflammation. The late Mr. Saunders had many instances under his care, of more than one child in a family being thus affected. An account of more than sixty cases treated by that surgeon were published many years ago in an interesting and most able work on this subject, by Dr. Farre. Mr. Saunders performed the anterior operation for these cases, but most other surgeons have since preferred the posterior operation, and I think with good reason, for the cataract in infants is generally very soft. The needle should be passed in, from behind, and the capsule lacerated, and the lens itself be broken up, (if necessary, by repeated motions of the needle.) The fragments should be pushed through the pupil into the anterior chamber. In this soft condition of the lens, there is not any danger of exciting inflammation by this proceeding, and sometimes a single operation suffices for the absorption of the whole cataract, and that may occur in the space of a few days. I need scarcely impress on you, that the child should be laid down on its back and be firmly held. You will generally require several assistants; and it is a very useful caution to roll the child up in a long towel, or sheet, and very generally you will require the assistance of the speculum. It is exceedingly important to operate at a very early age on congenital cataracts, otherwise the little patients quickly acquire a rolling motion of their eyes, which they seldom afterwards entirely get rid of, however successfully their cataracts may have been operated on, and it is also supposed that the retina loses its power from disuse. We are therefore in the habit of proposing the operation to parents when the child is eight or ten weeks old, if healthy.

After the different operations for cataract, patients are frequently annoyed with the existence of bands of opaque capsule, of every variety of form, either loose, or floating, or stretched across the pupil in the form of bands, or of tough, flat masses, as if the anterior and posterior surfaces of the capsule were joined together, after the absorption of the lens. You should endeavour to dilate the pupil as much as possible by belladonna, in order that you may thoroughly examine the situation and connexions of the opaque portions of the capsule. If it should prove to be rather thin, and to occupy the whole space of the pupil, your course is very clear. You should make a central opening, and then lacerate the membrane, and endeavour to twist the portions round, with a needle having a curved end; and when you withdraw your instrument, the fragments will generally remain behind the iris, and will not interfere with vision when the pupil is again contracted. I show you now a beautiful instrument, invented by Desmares, and made by Mr. Weiss, for the purpose of removing fragments of capsule: it is a very delicate pair of forceps, the blades of which are made to approximate closely, and a canula passes over them to keep them in apposition, and thus the instrument presents the form of a needle with a rounded extremity. This is to be introduced through a small opening previously made in the cornea; then, by retracting the canula slightly, the blades open, and the fragment of capsule may be seized, the blades being again closed upon it; and after turning the instrument two or three times, so as thoroughly to engage the capsule on it, the whole may then be withdrawn through the wound.

When there are merely little bands stretching across the pupil, I have divided them with the cutting-needle, and in many cases their divided ends have contracted satisfactorily.

The other evening, I mentioned that Mr. Tyrrell was in the habit of performing an operation in certain cases, which he very correctly termed drilling, as a substitute for the old operation of dividing the iris with Maunoir's scissors, in order to expose the lens to the action of the aqueous humour. The cases in which this operation ought to be performed are those primary or secondary cataracts in which the iris has been severely inflamed, and where there is synechia posterior, the capsule being implicated. Mr. Tyrrell proposed, and put in practice successfully, the following operation:—He passed a fine, straight needle through the anterior part of the cornea, and thence through the pupil, which in these cases, is generally much contracted and fixed. He made the needle enter the capsule and the lens for a moderate distance, and then rotated the instrument between his finger and thumb, so as to drill a small hole in the lens; he then withdrew the needle. This operation was usually repeated several times, and the capsule was purposely entered at different points on each occasion, so as gradually to weaken the capsule, in order that it might be more easily displaced, when the lens had been dissolved. The progress of the case is to be judged by the increased depth of the anterior chamber. There is no pain in this operation, and scarcely any risk of inflammation, but it is a tedious process, because it has to be repeated many times, with an interval of a few weeks; but when the patient is told that it is his only chance of doing well, he will at once be reconciled to the delay and repetition. This is now with us an established operation in such cases, and is much preferable to the division of the iris.

The term secondary cataract is only applicable to opacities of the lens or capsule after inflammation, or to the capsular cataracts after different needle-operations, and they are all, as I have said, to be treated carefully by operations already described. After severe inflammation, the pupil sometimes becomes closed, or contracted, or displaced; or it may be obstructed by lymph that has been effused behind or within it; or there may be a dense opacity of the cornea opposite the natural pupil. These conditions of the iris and cornea present many varieties, each of which may render it necessary that the natural pupil should be enlarged in one direction or another, or that an entirely new pupil be formed, which is termed an artificial pupil. Cheselden had the credit of being the first surgeon who made this bold attempt, and he cut through the iris from behind, having introduced his knife through the sclerotic; subsequently, the cornea and iris were both of them included in the same wound by Wenzel, who introduced his spear-shaped knife through the cornea and then through the iris, passing backwards, and when the knife had advanced a little way inwards, he is said to have brought out the point again through the iris, and hence he completed the corneal section, and removed by scissors a portion of the iris: in later times, Sir William Adams invented a narrower knife with which he pierced the sclerotic at the temporal side, and then passing the instrument towards the nasal edge of the iris, he pierced that tissue from behind, and made a transverse cut in the iris, as he drew back the knife. The celebrated Maunoir invented those delicate and most useful scissors which I before spoke of—they have one blade probe-pointed, and the other sharp, for the purpose of dividing the iris after an opening had been made in the cornea by the cataract-knife. He also had some made with both blades probe-pointed, and these were to be used when the natural pupil was contracted, but not obliterated: many other surgeons have practised excision. Thus Beer, after making a section of the cornea, drew out the iris with a pair of forceps, and then cut off a portion with the scissors. He was followed in this operation by Gibson, with greater success.

The proposal for separation of the iris from the ciliary body was the result of different surgeons having observed this to have taken place after accidental blows on the eye with whips, &c., and it has also been seen as the result of prolapsus iridis. Schmidt and Scarpa are said to have proposed this operation nearly at the same time. Scarpa states that he introduced a curved needle behind the cornea at its temporal side, and then passed it across the posterior chamber until it had reached the upper and inner part of the ciliary margin of the iris; he then passed the needle through it into the anterior chamber, and having first directed the needle downwards, he drew it gently across and outwards; thus, in the first instance, detaching the iris from the ciliary body, and secondly, enlarging the opening by drawing the needle to the outer side. Schmidt performed his operation in a similar manner. But this operation has been abandoned, as being calculated to do serious injury to the eye. Another operation was proposed by Langenbeck, which he called detachment and strangulation. He drew a portion of the iris out at a very small section of the cornea, and left it in the wound as a prolapsed portion of iris; and subsequently Assalini used to cut off the portion which had been drawn out through a small section of the cornea; and these two operations, as well as that of Maunoir, are much practised in the present day. It has been noticed that the texture of the iris is very different at its ciliary and its pupillary margins, being much firmer towards its outer or ciliary margin than near the pupil; and this should be always borne in mind in deciding on any operation.

I have now detailed to you some of the very many operations for artificial pupil which have been proposed and practised at various times; but the modifications which have been suggested, and the number of instruments made for such purposes, have been too numerous to describe here. Before you determine on any of these operations, you should satisfy yourself that it is your only resource. The condition of the eye in every respect should be well considered; the iris itself, as to its colour and texture; the state of the globe and of the retina itself, for this is generally sensitive under light to a certain extent, even with closed pupil. Then, again, there are other circumstances which would of themselves contra-indicate any such operation

You should not make an artificial pupil in one eye while the patient can see even moderately with the other, for the axes of the vision would in the two eyes scarcely ever correspond; or if he could even see tolerably with that one eye only. If the cornea should be at all nebulous it would be absurd to attempt the operation, for the opacity which already existed might very probably be further increased, and thus prevent any good result from your operation: also, if the patient is scrofulous, strumous ophthalmia and opacity might very probably follow. Your prognosis would be favourable when the loss of sight depended chiefly on some obstruction of the pupil, and when the rest of the eye was healthy; thus simple dense opacity of the cornea in one spot, or synechia after ulcer of the cornea, or prolapsus iridis, or if the pupil was closed after the extraction of a cataract. As a general rule, the result will be better in proportion as the pupil is nearer the centre of the iris; also, it is desirable that the new pupil should be rather large, as in some, though not in all cases, there is a disposition in the new opening to contract. Recollect that a simple incision in the iris, when admissible, is likely to effect more benefit than the separation of the iris from the ciliary body. If the cornea of a patient be very conical, so as to interfere seriously with his vision, the changing the position of the pupil by operation has been frequently of much service to him: very generally the preferable operation is, the bringing the pupil downwards and outwards, or downwards; and lastly, downwards and inwards; but never upwards if it can be avoided. In these cases the operation is generally made a very simple one, by the use of either the hook or the scissors. The late Mr. Tyrrell modified Graefe's hook, which was like a long needle, with the end bent backwards, parallel to the blade, but the end was sharp: Mr. Tyrrell had the end made blunt and smooth. (I show you the instrument now.) It is the one we all use at the Ophthalmic Hospital at the present time, and we have every reason to be satisfied with it; it does not tear or wound the iris, but merely draws it gently downwards to such a point as you may wish.

The preliminary opening in the cornea is made by a broad cutting-needle, of sufficient width to admit this hook; and if the opening be carefully made, only a small quantity of aqueous humour generally escapes, which is generally of considerable advantage to the operator: then the hook is passed in, with the end towards the cornea, as far as the pupil; it is then turned backwards, and the edge of the iris is embraced by the hook, and it is drawn downwards. Sometimes the hook is in danger of catching hold of the adjacent parts as it comes out, and it must therefore be gently turned again, so as to face the cornea. You may leave the portion you have drawn out to separate gradually, or you may cut it off with the scissors, as you may prefer; but we generally cut it off. If this is done, the iris recedes, and less irritation is likely to follow than if you left it strangulated in the opening in the cornea. Sometimes the new pupil appears to be a chink or fissure only, and it is very easy in such cases, to enlarge it in a new direction. If the pupil has been destroyed, and there should be synechia anterior, the needle may be introduced carefully, and be made to enter the iris near the adherent part, but not to pass any distance through it, for fear of wounding the capsule of the lens; the hook may then be carefully introduced, and used as I have before directed. When, after extraction of a cataract, the pupil is closed, and the iris be tense, Maunoir's scissors is the instrument of most use: the opening is to be made with a cataract-knife, and the scissors should then be introduced, with the blade closed, and the cutting-blade should be the lower one; this end is then advanced through and behind the iris, and the blunt end is passed on in front of the iris, and then they are closed, by which motion a portion of the iris is divided; the fibres will at once freely retract, the iris having been generally tense. There is seldom much inflammation consequent on this operation, although frequently more or less blood is effused, which is gradually absorbed. Cold water may be applied over the eye, and if necessary, calomel and opium may be given, and belladonna be regularly applied; but the necessity for this is a rare occurrence. When the iris is flaccid, we make a double incision with the scissors, and thus form a triangle with the apex at the centre of the iris, and then depress backwards the flap; this will, in most cases, remain out of view, and you will thus have made a useful pupil for your patient.

I said I could not do more, in this lecture, than refer to some of the principal operations which have at different times been practised, and then recommend to you those which I considered the most efficient. This I have now done, as fully as my time would allow; and I must refer you to the many excellent works on these subjects I have formerly mentioned, if you wish to enter more deeply into the subject.

Lectures

ON

SOME OF THE MORE IMPORTANT POINTS IN SURGERY.

(*Delivered before the Medical Society of London.*)

By G. J. GUTHRIE, Esq., F.R.S.,

Late President of the Royal College of Surgeons of England.

First Lettsomian Lecture; election of the Lecturer to the Lettsomian Professorship of Surgery; advancement of science by the Council of the College of Surgeons; light thrown on systemic anatomy by the microscope; structure of arteries; modifications of epithelium; formation and development of cells; means adopted by Nature for the suppression of hæmorrhage from arteries; opinions of surgeons; of the author; differences in the processes of Nature in animals and in man; power of the heart over the circulation. Phenomena resulting when arteries are wholly divided; cases in illustration; the lower ends of divided arteries more prone to secondary hæmorrhage than the upper, and why; effects of the suppression of hæmorrhage by art.

Mr. President,—When the two Societies of Bolt-court and of Westminster were pleased to form a junction, with the view of constituting a more consistent and important whole, under the title of the Medical Society of London, the members of the united body, whom, with you, I have now the pleasure to address, did me the unexpected honour of appointing me their surgical professor. Sir Robert Walpole, when premier, is reported to have said, that his experience in the House of Commons enabled him to state that every man had his price—money with some, honours and flattery with others; and the favour you conferred so unhesitatingly, in electing me your professor, induces me to believe that there is some truth in his remark; for I had given up all thought of further lecturing to a full-grown audience, and have been induced to accept the task you have allotted me, solely under the influence which the honour conferred by so learned a body of estimable men must necessarily create. It was quite irresistible. It reminds me of the lady, with whom I afterwards became acquainted, who, having yielded to the blandishments of her seducer, and deserted a husband she had unwillingly married, threw away, as the fugitive carriage turned from Clarges-street into Piccadilly, a camphor bag she had worn round her neck, as a protecting charm against all unholy desires, thus abandoning herself to the delusions of love and error; and as mankind has always been alike, the lover protesting at the moment, in the words of Horace,

> "Tecum vivere amem, tecum obeam libens;"

like her, Mr. President, I have thrown off my talisman—the protection which privacy would have given me; I have placed myself, if not in your arms, at least at your feet, that I may comply with your wishes; and can only now pray your indulgence and your pardon for the error I have committed in supposing that I could for one whole hour occupy your attention, in a manner which should be deserving of the approbation of the learned body over which you so worthily preside.

The subject I have selected for the present lecture is, "the means adopted by Nature and by Art for the suppression of hæmorrhage from the larger arteries;" and I have done so, because it is one which is comparatively unattended to, perhaps but little understood; not so much from the failure of information on this point, as from a disinclination to use, or a negligence in applying, that which at present exists. At the same time, it is proper to state, that there is new matter which I hope to bring before you, in aid of those opinions I have before advanced; for histology, or the doctrine of the tissues—in other words, microscopic observation—has unfolded much of the ultimate structure of parts, which was formerly unknown, or at most only suspected; and the proof thus obtained, in relation to the structure of arteries, has given that confirmation to my opinions which was heretofore deficient.

The application of the microscope to the intimate structure of arteries is due, in the first instance, to Henle, and is detailed in the "Allgemeine Anatomie," published at Leipzig in 1841, and in Mr. Paget's excellent abridgment in 1842. This has been followed by Remak, "Histologische Bewerkunden über die Blutgefässwunde;" by Donders, Jansen, Kölliker, Schultze, and others, and particularly Drs. Quain and Sharpey in their Anatomy, and last not least, by Mr. Quekett, the assistant-conservator of the Royal College of Surgeons, to whom I am indebted for the views I shall be enabled to give you of the minute structure of arteries, which differ in some respects from those of the histologists who have preceded him. Upon his labours I rely in preference to all others, as it is my duty as much as it is my inclination to do, from his situation, from the accuracy, perseverance, and ability he has shown on so many occasions, and which have placed him at the head of that branch of knowledge in Great Britain, if not in Europe. He is present, or I should say more in his praise. The president of the college has granted permission for the college microscopes, diagrams, &c., to be made use of on this occasion; and Mr. Quekett will show any part I shall allude to in its fresh state to such gentlemen as may be disposed to judge, with their own eyes, of these matters, when enlarged by 250 diameters.

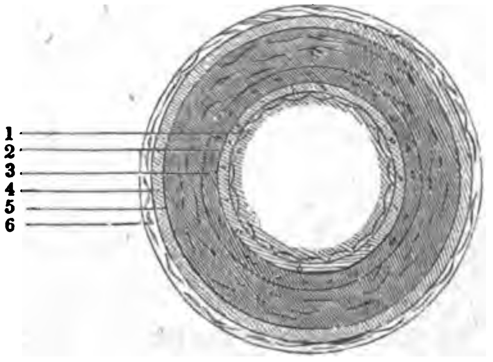
It was stated formerly by some gentlemen, and perhaps a few think so still, that the Council of the College of Surgeons have never done anything for the advancement of science; and these gentlemen have repeated it so often, that they at last really did believe it themselves. The facts I shall draw your attention to during the present and ensuing lectures will show you the contrary; and the explanations I shall give, even on a single point, will I hope be satisfactory, whilst perhaps it can come from no one more properly than myself, as, chemically speaking, the *protein* cause of part of the good which has followed.

The College instituted some years ago three studentships in anatomy and surgery, for three years each, with an annual salary of a hundred pounds; and obtained for these gentlemen, when this period was completed, an assistant-surgency in the army, navy, or the East India Company's service—offices, you all know, many sigh for in vain, as only procurable by great personal influence. The future position of these gentlemen was thus, if they pleased, ensured. Mr. Owen, our very learned professor of physiology and comparative anatomy, came to us, a young but well-informed man, at eighty pounds a year. The apparently poor employment thus afforded, enabled him gradually to become the greatest man now in Europe in the branches of science he has cultivated. Mr. Quekett was one of the first appointed college students. The industry, perseverance, and ability shown during his three years gained for him the approbation of the Council, who felt they ought not to part with him; that the public interests demanded from them the expense of his retention as assistant conservator; and he stands before you now, without exception, the first man in histological lore in England, and whose excellency is acknowledged throughout the Continent of Europe and America.

It is not without some satisfaction I can look back to the day when I proposed to the Council the establishment of these studentships. The proposition was met unanimously. I had only the merit of anticipating for a moment the wishes of the whole body; and I hope many of you will live to see others rising up year after year capable of filling similar situations, with equal honour to themselves and advantage to the profession.

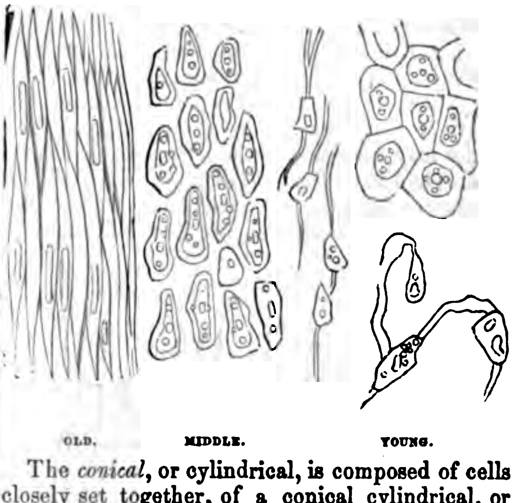
This is not all: the microscope in the hands of Mr. Quekett discloses the nature of the diseased as well as the healthy structure of parts. The secretion from a diseased part will often show the nature of the disease itself, and enable the surgeon to judge whether an operation may or may not be performed with a reasonable hope of success; whether it is necessary to do it or not; and the knowledge which Mr. Quekett has thus acquired is at the service of every member of the profession who stands in need of it, and cannot fail to be to them of the greatest advantage. I venture to think that they should honour and cherish the body which has raised up for them such men as Mr. Owen and Mr. Quekett. A little firmness on the part of the profession at large, if accompanied by a moderate quantity of reason, judgment, and common sense, would soon leave little to be desired; and the time is I think at hand, when a happy adjustment of all difficulties and differences might be readily effected, as much to the advantage of the profession as the public.

As the efforts resorted to by nature for the suppression of hæmorrhage depend on the capabilities of the arteries as resulting from their structure, it becomes an object of importance to inquire minutely into it. With this view, the old division of an artery into three coats may be continued; the difference between ancient and modern anatomy being in their subdivision into different textures, or layers. The annexed diagram shows the edge of a large artery, which has been divided circularly, and magnified so as to exhibit six layers in a distinct manner. The ancient three coats are each divided into two. The *inner* or old serous coat, is shown to be separable into *two:* the epithelial, marked 1, and the fenestrated, marked 2. The *middle* coat is also separated into *two;* the inner, or *muscular*, marked 3, and the outer, or *elastic*, marked 4. The *outer* coat is divisible also into two layers, the *inner*, marked 5, and the *outer*, marked 6; number 5 being composed more of elastic fibres; number 6 more of areolar fibres, by which tissue, in a less condensed state, the arteries of the extremities are attached to their sheaths. Such may be considered to be the general composition of a large artery, each particular structure remaining to be examined.



If a small portion of the inner coat of an artery be gently scraped with a knife, or if the inside of the cheek be treated in a similar manner, a little white soft substance is brought away on it, called *epithelium*, a name given to it by Ruysch, from the delicate layer of epidermis investing the female nipple, ἐπι, *upon*, θηλή, *a nipple*. The epithelium of the human body is divided into three kinds by microscopists—the *tesselated*, *pavement*, or *scaly;* the *cylindrical*, or *conical;* and the *spheroidal*, or *glandular*. The tesselated, as it exists in arteries, is represented in diagram No. 1, in three different stages—in the young person, in middle age, and in the very old person; one stage gradually degenerating or changing into the other, at each different period of life. It is composed of one or more layers of nucleated cells, of a flat, oval, round, hexagonal, or polygonal form, and about $\frac{1}{1400}$ of an inch in diameter; the nucleus in each cell containing within itself one or more nucleoli, and even several paler granules. The epithelium has a thickness proportioned to the friction or pressure to which it is exposed, particularly when covering the skin. In the arteries of the young, and in the mammalia generally the epithelium is strongly marked: in older persons all traces both of cells and nuclei have disappeared. It lines not only the internal surface of the arteries and veins, but the mouth with its cutaneous glands; the *conjunctiva* of the eye; the pharynx and œsophagus; the vagina and cervix uteri; the entrance of the female urethra, and the serous membranes.

No. 1.



OLD. MIDDLE. YOUNG.

The *conical*, or cylindrical, is composed of cells closely set together, of a conical cylindrical, or pyramidal form, about $\frac{1}{1200}$ of an inch long, each cell enclosing a flat nucleus, with nucleoli. It lines the urethra in the female, from the entrance where the tesselated ends, and extends inwards to the urinary tubules of the kidneys; the greater part of the female organs in a similar manner; the digestive canal and gland ducts, from the cardia to the anus.

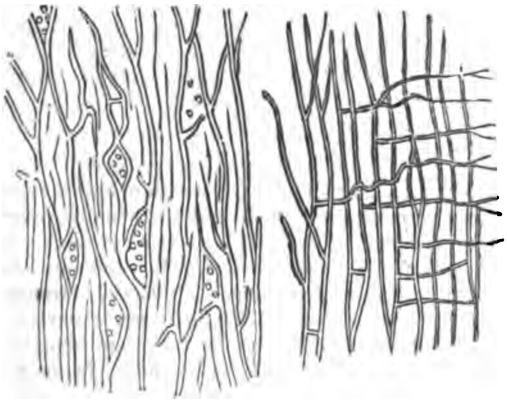
The *spheroidal* or *glandular* epithelium consists of cells, more or less circular or spherical in figure, each having a large nucleus in its centre.

This epithelium is met with in all glandular organs, such as the liver, kidney, lachrymal and salivary glands, and in these cells the proper secretion of the gland is developed. The tesselated and cylindrical kinds are, on the contrary, more or less protective.

The two first kinds are sometimes ciliated by the addition, at their free extremities, of several fine, pellucid, blunt, and pliant hair-like processes or cilia, about $\frac{1}{50000}$ of an inch long, which are during life, in constant motion. This kind of epithelium, known as the ciliary, lines the whole respiratory tract of mucous membrane; the *palpebral* conjunctiva, as opposed to the tesselated on the eye-ball; the ventricles of the brain; the posterior half of the uterus, and the Fallopian tubes.

The epithelium is placed upon the second layer of the internal coat, which, from certain appearances of apertures or windows, has been called the *perforated* or *fenestrated* layer. (See diagram No. 2.) It can be peeled off in small pieces only, and shews under a power of 250 diameters a series of well-marked fibres running in almost parallel lines upon a comparatively structureless membrane, resembling the inner layer of the cornea, as in the left hand figure of the diagram, the fibres being arranged in the length of the vessel. They frequently bifurcate, and almost immediately join again, so that an oval space, resembling a hole is perceived. This is not always a hole or perforation, as it is generally described to be, as may be seen and proved by the fact of the supposed opening being sometimes filled up by small bodies, like nuclei, as if the oval space were occupied by a cell. This fenestrated layer varies in thickness in different vessels, and is more strongly developed in the lower animals than in man. When this layer is very thick, the fibres which are yellow, do not all run in the direction of the length of the vessel, for others crossing at right angles may sometimes be observed, as delineated in the right hand figure of diagram No. 2. These two layers compose the ancient inner coat of an artery, and are frequently the seat of disease.

No. 2.



The middle coat, as it was termed, forms by much the greatest part of the thickness of an artery, and generally speaking, is of a more or less yellow colour. It appears fibrous to the naked eye, and can be peeled off not unfrequently in a series of circular layers, when examined microscopically, it is seen to be composed of *two* sets of fibres arranged in a circular direction. The inner layer is composed of muscular fibres, of the organic or involuntary kind. (See line marked 3, on the circular diagram.) The outer layer is composed of elastic fibres, and marked line 4 on the same diagram. These conjoined layers form the muscular coat of Mr. Hunter, the fibrous or contractile coat of later anatomists, who denied its muscularity from the supposed absence of fibrine—an error fallen into from chemical science being unequal at that time to its discovery, or rather of its more elementary part, called *protein*, the principal constituent both of albumen and fibrine, which two are now found to differ from each other in the addition only of three per cent. of sulphur. Mülder says, in his "Animal and Vegetable Chemistry,") Part II., p. 307,) "The combinations of sulpho-phospho protein (*fibrin* and *albumen*) and of sulpho-protein *casein*, with acids, alkalies, and salts, are especially remarkable. Protein is soluble in weak alkalies. Since therefore the serum of the blood is always slightly alkaline, being a proteate of soda, with sulphur and phosphorus, it keeps the sulpho-phospho protein in solution. This property is the cause of the blood remaining in a liquid state—a chief requisite for animal life.

If a weak alkaline solution of protein is neutralized by an acid, the solubility of sulpho-phospho protein is greatly diminished. The sulphuric and phosphoric acids, by not dissolving protein, stanch bleeding. Acetic acid, by which protein is dissolved, does not, neither does the hydrochloric.

Protein, according to Mülder,—although it is doubted by Liebig,—is a complex substance, consisting of several heterogeneous organic compounds united into one whole, easily acted upon by strong reagents.

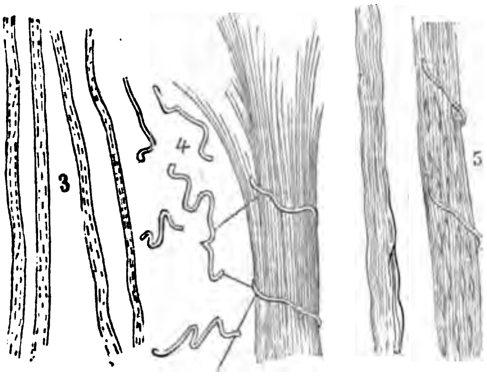
If a protein compound be brought into contact with an alkali, ammonia is immediately disengaged, and the alkaline solution can hardly be made weak enough to prevent the disengagement of ammonia. If either fibrine or coagulated albumen be dissolved in a weak potass ley, ammonia is always perceptible. Protein, therefore, is always in a state of decomposition, as serum is alkaline."

In diagram No. 3, fig. 3, the organic or *involuntary* muscular fibres are shown, consisting of more or less flattened bands, the fibres of which are soft, and marked with minute granules, sometimes exhibiting traces of nuclei. These purely muscular fibres are most abundant next to the inner coat of the artery, and diminish in number as they approach the outer layer, their place being occupied by firmer and more elastic fibres of a yellow colour, seen collectively in the circular diagram, as line 4, and separately in diagram 3, fig. 4, and in diagram 4.

The *involuntary* muscular fibres of an artery are rather smaller than those found in the intestines, bladder, and uterus.

The *voluntary* muscular fibres differ from the *involuntary,* in having cylindrical fibres, of much larger size, with transverse and longitudinal markings, unlike the flattened fibres of less size of the involuntary muscles, which have also a faintly granular appearance, instead of the more determined transverse and longitudinal lines of the voluntary muscles. But this subject I shall pursue in a subsequent lecture.*

No. 3.

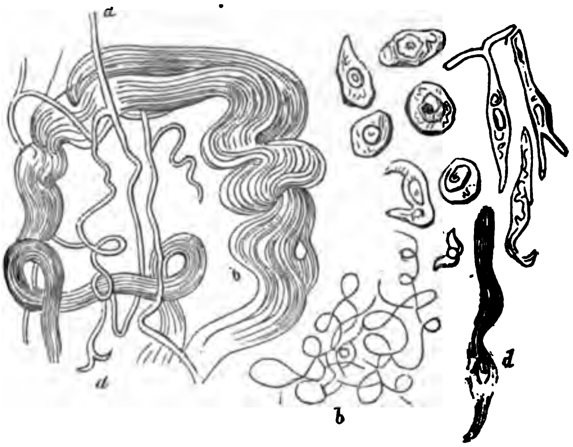


The *outer* or *elastic* layer of the ancient *middle* coat, represented by line 4 in the circular diagram, is formed of strong elastic fibres difficult of separation, and when torn across, have curled extremities, as shown in the diagram marked 4, differing only in size from those found in the ligaments of the spine, and in the ligamentum nuchæ of quadrupeds, as shown in the separate diagram marked 4.

No. 4.

The *external* coat of an artery divided also into *two* layers is shown on the circular diagram by lines 5 and 6. These two layers are composed of the yellow elastic fibres last noticed, and another set of fibres, *white* in colour and *in*elastic in structure, arranged in various directions; the *inner* layer predominating in yellow elastic, the outer layer in white inelastic fibres, and constituting a firm investment to all the other layers of which the artery is composed. The white inelastic fibres are shown in diagram No. 3, fig. 5, with a yellow elastic fibre curling round them. The constant crossing and re-crossing of these two sets of fibres form certain spaces, which, when not in a compact form, become real spaces, meshes, or areolæ, constituting what is now called areolar tissue, rather than the cellular of the older anatomists, from the circumstances that the areolæ communicate, and that perfect cells in any tissue do not. These elements of areolar tissue can be readily distinguished by the action of acetic acid, under which reagent the white fibres will almost disappear, leaving only a slight trace of fibres containing oval nuclei, as seen and marked in diagram 3, fig. 5. It is seen when unravelled in *b*, diagram 5.

No. 5.



a, Yellow elastic fibres. *b*, White inelastic fibres.
c, Nuclei. *d*, Fibre, with nucleus.

The inner layer of the middle coat, or muscular coat as it may be justly termed, forms, it will be seen, the greatest part of the thickness of the wall of certain arteries, and in some instances, as in the anterior tibial artery, constitutes nearly the entire thickness of the vessel. The *internal* coat is in all frequently seen puckered in a longitudinal direction.

The arteries are supplied with blood by vessels of small size, which do not come off immediately from the part of the artery they are destined to supply, but principally from neighbouring vessels. They are called vasa vasorum. They are arranged precisely in the same manner as those of areolar tissue. A few of these vessels penetrate as far as the middle or muscular coat, but do not reach the inner, which has no vessels; proximity to the circulating fluid being apparently sufficient for its nutrition.

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* For further information on the subject of muscular analysis, see Retzius in Müller's Handbuch der Physiologie des Menschen, 1844; Donder, in his Holländische Beiträge; Mulder's Chemistry of Vegetable and Animal Physiology, translated by Fromberg and Johnston; and Dr. Kirkes' Handbook of Physiology, in which he reports as the result of Dr. Donder's analysis, that when strong nitric acid is applied to any compound of protein, it forms with it xantho-proteinic acid, which with ammonia produces a yellow xantho-proteinate of ammonia. On applying this to the coats of bloodvessels, he found the muscular coat alone assumed the yellow colour which this agent causes, the other parts, as well as the coats of veins, remaining unchanged.

Arteries are supplied with nervous influence by branches from the sympathetic system running in their walls, and through their connexion by ganglions with the organs they supply with blood.

I have spoken to you of cells, nuclei and nucleoli, without giving any explanation, believing it to be unnecessary to allude to them before so learned a body. As there may be, however, some few who have not attended particularly to this subject, I may add that histological physiologists and philosophers are very *material* persons, especially when much inclined to chemical inquiries. They have decided that all of you, gentlemen—brave, intelligent, learned, accomplished, as you may be, young or old, handsome or plain, for I do not presume to say ugly—had a beginning when an embryo as a vesicle or elementary cell filled with, and surrounded by, a liquid called cyto-blastema, and containing a kernel or nucleus. This discovery is due to Schleiden in vegetable, to Schwann in animal bodies; and sometimes this kernel exhibits one or more dark little spots, which are called nucleoli. The kernels are considered to be little cells united with the original cell; the nucleoli are not satisfactorily proved to be either openings, vesicles or solid little spheres, situated at the internal wall of the kernel.

The manner in which the cells or main forms of the organic kingdom are produced is thus represented by Mulder. In a shapeless, consistent, sometimes almost gelatinous mass, to which the name of *cyto*-blastema or *formative substance* has been given, containing the materials requisite for the production of cells, small round grains or nucleoli are perceived in the act of formation. Around these grains a layer of granular matter is deposited, which continually increases in thickness, and constitutes the kernel or nucleus. This is oval-shaped or round, almost always opaque, has a granular surface, and is considered to be a vesicle, a little cell itself. From the surface of this kernel a small, very thin, transparent vesicle is raised, appearing as a segment of a sphere, which soon expands, and becomes so large, when full grown, that the kernel lies as a minute corpuscle upon its interior wall; the material for its formation being supplied by the cyto-blastema, and is converted into a vesicle by the kernel which is first formed, its embryo existing in the formative substance.

The first trace of organisation is the production of a small perceptible body or nucleolus, which deposits on the surface a granular substance from the cyto-blastema, to give rise to a little producing organ, the kernel or nucleus. This further transforms the surrounding cyto-blastema into a granular surface, from which the vesicle is formed, raised, expanded, and filled with a liquid, in which vesicle thus enlarged the kernel remains enclosed, and adhering to a certain spot of its wall.

If two nucleoli lie close to one another, they coalesce and become one solid mass, capable of producing one cell only, containing one kernel and two nucleoli. This view is that of Schleiden and Schwann, supported by Mulder, but not entirely approved by Henle; inasmuch as no kernel can be perceived in the cells of many cellular systems, whilst in the act of formation. In the elementary parts of animals which have long since lost their cellular form, the remnants of kernels are frequently found, as I have demonstrated in the diagrams before us. The manner, however, in which the elementary first-seen granules are formed in the cyto-blastema, science has not yet been able to discover. The chemists have proved that all elementary organic substances consist of carbon, hydrogen, oxygen, and nitrogen, susceptible of endless modifications of their respective forces, under which an organic molecule or ovum is produced, and after that, under certain circumstances, one of yourselves in man. The learned professor of Utrecht is not, however, quite satisfied with his theory of life, and says "that his efforts are only to endeavour to discover what means the Deity has used to give to organized nature its present form, which, he says, is the study of nature. Its aim is to acquire a knowledge of the laws which regulate it; its highest aim the deduction of even the very remotest results from the very first causes throughout all their phases." He should have added—the very first causes human intellect is permitted to inquire into.

Whatever may be the true reading of the book of Nature by the histologistical physiologist and chemist, they seem at least to have made out, in a satisfactory manner, that a virgin lady of the *bimanus* breed carries in her ovaria at least four hundred of these cells, or ova, ready for use after the proper application of something which they seem to think analogous to electro-magnetism or a galvanic battery. In the common fowl, nothing is wanting, after this, but the application of a well-regulated temperature; and Mr. Cantelo, in Leicester-square, can with it produce chickens from the eggs more certainly than the hen herself. Luckily, in man, months are required for this process, and the whole four hundred ova cannot be evolved, even if every facility were offered. In the museum of the College of Surgeons there is a large bottle, containing five young ladies and gentlemen, all brought forth at one birth, and destroyed by an accident; and I was for many years acquainted with a gentleman whose mother produced twenty-eight living children in the first twelve years of her married life. My friend, the late Dr. H——, well known near Bath, was the thirty-fifth child of his mother. She had, I believe, another; so that a lady of forty-eight may perhaps, some day, be seen taking an airing with some three dozen of her offspring behind her. What Mr. Malthus or Miss Martineau would say or have said in such a case, I cannot divine.

Having demonstrated the structure of the arterial system and stated that it differs in vessels of different sizes, the large arteries being mainly elastic, those of less and of a small size being principally muscular, thus supporting and confirming the views of Mr. Hunter, we are prepared for the inquiry into the means adopted by Nature for the suppression of hæmorrhage from them when *divided*.

To Petit we are indebted for the first scientific investigation of this subject; but he attempted nothing beyond a *wounded*, and did not approach that of *divided* arteries of any or of reasonable size, believing that a ligature then became necessary.

Morand, in 1736, first supposed that the changes which took place in the ends of an artery when *divided*, and principally its retraction and contraction, materially assisted in suppressing hæmorrhage; and although the manner of expressing the fact does not accord with modern ideas, it still remains and cannot be controverted. Sharp, in 1739, maintained a similar opinion. Pouteau, on the other hand, denied the retraction of the artery, or the formation of a coagulum within it.

Kirkland in 1763, Gooch in 1766, White, and Aiken, opposed the opinions of Petit, and adopted, in some degree, the theory of Pouteau, mingled with the statements of Morand, denying that a coagulum was formed within a divided artery, and confirming the observations of Morand with reference to its contraction.

Mr. John Bell thought "that when hæmorrhage from a divided artery ceases of its own accord, it is neither from the retraction of the artery, nor the contraction of its fibres, nor the formation of clots, but by the cellular substance which surrounds the artery being injected with blood,"—an opinion totally erroneous with respect to those arteries which usually fall under the observation of the surgeon, but which is, I fear, taught by some professors of reputation in the present day, and which it is one of the principal objects of this lecture to condemn and destroy.

Dr. Jones, in his celebrated work on the processes employed by Nature in suppressing hæmorrhage, criticised Mr. J. Bell for calling the means employed for the suppression of hæmorrhage, *natural*, when he recommended, in addition, a certain degree of pressure to be made by the end of the finger; and yet, strange to say, in a set of experiments, made expressly to ascertain the means adopted by *Nature*, he himself, in fourteen out of nineteen of them, actually closed the wound made for the division of the artery by *ligatures*, and considered this to be a *natural means*. In consequence of this mistake, he adopted the theory of the coagulum in the sheath of Mr. J. Bell, in addition to the contraction and retraction of the coats of the artery, concluding, however, that "the suppression of hæmorrhage was a process performed by the concurrent and successive operations of many causes: these may be briefly stated to consist in the retraction and contraction of the artery; the formation of a coagulum at its mouth; the inflammation and consolidation of its extremity, by an effusion of coagulating lymph within its canal, between its tunics, and in the cellular substance surrounding it." Mr. Hodgson, in his able work on "The Diseases of Arteries," 1815, supported the views thus taken by Dr. Jones.

Forty years have elapsed since I published facts disproving the perfect accuracy of these opinions, and especially as to their applicability to arteries of all dimensions, in which principally consisted their error; and have said and taught invariably to the contrary, during the whole of that period,—and I trust I am about to do so for the last time it may be necessary,—that on the size and variation of the structure the process employed by Nature essentially depended; that it was not the same in *large* as in *small* arteries; and that it is not even quite the same in the upper and lower ends of the same artery—facts which have received complete support, and I do not hesitate to say, indisputable confirmation, from the experience of that time, and from the demonstration of the minute structure of the coats of arteries which histological anatomy has enabled me to bring under your observation.

A variety of experiments have been made by different persons on the arteries of dogs and horses, in order to observe the processes which take place in them to effect a cure, with the view of elucidating the manner in which these processes are supposed to take place in man. The analogy, however specious, is not satisfactory, inasmuch as the injuries of arteries in man do not follow the same course as in animals; and the means which Nature adopts to effect the cure of an injury in animals, cannot be considered to take place in man, as they are not followed by the same results.

If the femoral artery of a dog, or the carotid artery of a horse, be laid bare, and punctured by a large needle, blood oozes slowly through the opening, and after a little time coagulates on its surface. If the sheath is not laid open, and the artery is only punctured through it, a small tumour forms of the effused blood, like a circumscribed aneurism. The wound soon heals externally, and on examining the artery four or five weeks afterwards, little or no sign of injury will appear.

If a longitudinal slit, the twelfth or even the sixth part of an inch, be made in either of these arteries, it will heal without any mark on the inside of the vessel; and in some instances even when of a greater extent, provided the opening in the sheath has been only of similar dimensions.

When the artery is divided transversely for one quarter of its circumference, the edges of the wound are unequally contracted, so far as to form nearly a circular opening, the hæmorrhage from which is sometimes great, and often returns on the slightest exertion until death takes place. If the artery has not been denuded, a coagulum forms in the sheath, which adheres to the artery, and fills up the circular opening. After five or six weeks, the circular opening has become a mark on the inside, evidently a cicatrix.

When the artery has been divided to one half of its circumference, it has been known to heal and remain pervious, but in almost every case the animal dies from repeated hæmorrhages. Where three-fourths of the artery are divided, the slip which remains prevents the retraction of the under part of the artery, but the upper parts are separated to a considerable distance, giving to each the shape of a pen cut for writing. When the animal does not bleed to death, this slip is either torn through or destroyed by ulceration, and the ends of the artery are found retracted, and completely separated from each other. The layer of coagulum thrown out in all these cases is not confined to the part, but extends upwards and downwards for several inches in the sheath, and in a similar manner in the cellular structure between the muscles external to it. It is, however, thicker immediately over the wounded part, as if the blood last effused had coagulated immediately from the slowness with which it was poured out, whilst a certain quantity is interposed between the edges of the incision and the artery itself.

The processes of reparation in man are by no means so favourable. It is probable that a simple puncture made with a needle will sometimes heal, as in animals; but I have seen two instances in which the femoral artery was wounded by a tenaculum, and ulceration, followed by hæmorrhage, took place in both, requiring the application of a ligature: but it is certainly otherwise with a longitudinal fissure, of from one to two lines in extent. The edges of the wound do not separate when the artery is in its natural state, so as to allow of a jet of blood from it. On the contrary, it only oozes out, and sometimes not even that kind of bleeding is perceptible, until some obstacle to the circulation takes place below, when it is propelled with a jet; and having begun, and the edges of the cut having been separated, it continues to be thrown forth in considerable quantity. When once suppressed by pressure above, the circulation through it may and often is again carried on for several hours without further hæmorrhage, when it may recur without any obvious cause. A slit in a large artery should always be treated by placing a ligature above and another below the wound; but there can be no doubt that in an artery like the temporal, a longitudinal slit heals, without the canal of the vessel being obliterated. In larger arteries, when I have known them to be wounded, and a cure has taken place through the efforts of nature, unassisted by art, the canal of the artery has been obliterated.

When an artery is cut transversely in man, to one-third or fourth of its circumference, it forms the same circular opening as in animals; and if the artery is large, the bleeding usually continues until the person faints, or it is arrested by pressure. The difference, however, between the arteries of man and of animals is here most strongly exemplified. In an animal, the bleeding will probably be restrained altogether, without any assistance from art. In man, even with the best assistance in the way of compression, unless the circulation be altogether stopped, hæmorrhage will in all probability recur; and if the external opening be closed, a spurious aneurism will be the consequence. This is often seen in so small an artery as the temporal, and I have been obliged to apply a ligature above and below a tumour of this description. When it has been of a smaller size I have merely divided it transversely, and applied pressure; but this is dangerous, from being so liable to derangement, when the hæmorrhage will often be considerable, whilst the patient must remain in a state of anxiety for several days. When an artery is completely divided, it is less likely to continue to bleed than if it had been only wounded.

The processes adopted by nature, unassisted by art, for the suppression of hæmorrhage from a large divided artery can only be observed in one of the size of the femoral or the axillary, inasmuch as death almost immediately follows the division of the subclavian, the iliac, or the carotid. When an artery of the size of the femoral is divided at the upper part of the thigh, the means adopted by nature are not the same as when the injury is committed at the lower part, or on a vessel of an inferior size and of a different structure.

The power and influence of the heart over the circulation through the arteries has been greatly overrated. I have always affirmed that the fact is exactly the reverse of that which is usually stated, and that the heart exerts a comparatively trifling degree of influence over the circulation—a fact which may be easily proved, whilst it accords with more modern physiological experiments and deductions, which give to the impulse of the heart a power equal to four pounds four ounces.

If the axillary artery be laid bare, previously to an operation for amputation at the shoulder, and the surgeon take it between his fore finger and thumb, he will find that almost the slightest possible pressure will be sufficient to stop the current of blood through it. Retaining the same degree of pressure on the vessel, he may cut it across below his finger and thumb, and not one drop of blood will flow. Further, let the artery be fairly divided by the last incision which separates the arm from the body, without any pressure being made upon it, and the result will be, that it will propel its blood with a force more apparent than real. All that is required to suppress this torrent is to place the end of the fore finger directly against the orifice of the artery, and with the least possible degree of pressure consistent with keeping it steadily in one position, the hæmorrhage will be arrested. What is more important is, that if the orifice of the artery, from a natural curve in the vessel, or from accidental causes, happens at the same time to retract and turn a little to one side, so as to be placed in close contact with a solid piece of muscle, the very support of contact will be sufficient to prevent its bleeding. These are facts which I have placed beyond a doubt—so frequently and so publicly, that they may be considered as indisputable. When the femoral artery is cut across in the *upper* part of the thigh, the patient does not always bleed to death, although he is generally lost in consequence of the injury. He is less likely to die if the artery be divided in the middle or lower half of the thigh, but in both cases it is probable that the hæmorrhage will cease of itself; and if it recur in a secondary form, it will be more likely to take place from the *lower* than the upper part of the artery, on account of the different processes adopted by nature in these cases —facts, I apprehend, it has fallen to my lot to establish.

An officer was struck by a cannon-shot at the battle of Toulouse, which carried off his thigh about three inches below Poupart's ligament. He was shown to me in about a quarter of an hour after the receipt of the injury, as a fit case for amputation at the hip joint. He was however dying, although all hæmorrhage had ceased. When he expired, which he did soon afterwards, and being desirous of seeing by what means the hæmorrhage had been suppressed, I cut down upon the artery, took it carefully out, and found that its upper divided end was irregularly torn; a slight contraction had taken place just above, but not sufficient to have been of the slightest service in suppressing the bleeding, which was in fact prevented by an external coagulum which filled up the ragged end of the artery, and was slightly compressed within by the contraction which kept it in its place. The rest of the coagulum filled the hollow in the sheath which the retraction of the artery had occasioned. In this case, so unlike those I have hitherto noticed, the first natural cause giving rise to the suppression of the bleeding was the diminution of the power of the circulation; the second the formation of a coagulum, formed in the hollow of the sheath left by the retraction of the artery. Contraction had done nothing. It was hæmorrhage arrested, according to the theory of Mr. J. Bell; and it only occurs in arteries of the largest size, when death does not immediately ensue.

At the battle of Salamanca I had the opportunity of examining the thigh of a French soldier, whose femoral artery had been divided in a similar manner by a cannon shot. He lived until the next morning, when I saw him, no operation whatever having been attempted nor a torniquet applied. He died exhausted, but not from hæmorrhage, which, when once it had stopped, did not return. The artery showed precisely a similar state as the preceding one, with this slight difference, that the orifice was a little more contracted, the external coagulum was less in size and projecting like a mamillary process.

In other instances of a similar nature in which I have examined the extremities of large arteries, the appearances have more or less resembled the above; unless where the persons had died immediately, when the torn extremities have been quite open, and with very little or even no surrounding coagulum.

When the artery has been completely cut across, in the *middle or lower part* of the thigh, the patient has either died without assistance, or the hæmorrhage has ceased spontaneously. I do not recollect that I have met with an instance in which it has been necessary to tie the femoral artery after it had been divided and the hæmorrhage had ceased for the space of twelve hours; but I have had several opportunities of examining these arteries, in consequence of the persons having died from gangrene of the extremity, from hæmorrhage from the *lower end* of the artery, or after amputation.

An artery of this size or of that of the axillary, when cut or torn across, and separated entirely from its sheath, retracts in its length, and contracts *at and for a short* distance from the divided part in the shape of a claret bottle.

A soldier was brought to me during the siege of Ciudad Rodrigo, in 1812, whose left arm had been carried away by the bursting of a shell. The axillary artery, about to become brachial, was torn across and hung down, pulsating to its very extremity. Pressed and squeezed in every way between my fingers in order to make it bleed, it resisted every attempt, although apparently by the narrowest possible barrier, at the end of the artery, and formed by its contraction. The orifice of the canal was marked at the end of the cut vessel by a small red point, to which a very slight and thin layer of coagulum adhered, the removal of which had no influence in diminishing the resistance offered by the end of the artery to the passage of blood through it. In another case of a similar character, I cut off this closed end of the divided artery at less than an eighth of an inch from the extremity, when it bled with its usual vigour. The portion cut off was contracted in size, so as to leave little or no canal at its orifice, what there was being filled by a pin-shaped coagulum. The same appearances have taken place in the posterior tibial artery on severel occasions; and I do not hesitate to declare that in arteries of a middle size and below it, the suppression of hæmorrhage depends alone on the contraction and retraction of the artery, at its very extremity, and in no way on the formation of a coagulum.

The case of J. Barnes, of the 29th Regiment, wounded at the battle of Albuhera in 1811, illustrates many points I have maintained to be essential for the right treatment of wounded warriors. A musket-ball struck the right thigh behind and above the knee, inclining downwards and inwards close to the condyles of the femur, and in the direction of the femoral artery becoming popliteal, which bled violently at the moment, and continued for a few minutes, during which time he conceives he lost two quarts of blood. It then ceased, and he was dressed in the usual slight manner, and remained two days upon the field of battle, until removed to Valverde, nine miles on a bad road, and on men's shoulders, in a blanket converted into a bearer. He was considered as one of the slighter cases until the gentleman in immediate charge of him requested me to see him, on account of his toes being in a state of mortification, which was considered to point out a more serious injury than was at first supposed. On the evening of the 3rd of June, eighteen days after the accident, the man was placed on a bullock car, to be removed with the rest of the wounded, to Elvas, the mortification of the foot having ceased to increase, and a line of separation having been drawn. Shortly after the cars moved, I was informed that he was bleeding from the wound; it evidently appeared to be the popliteal artery, and as the blood flowed slowly, I supposed it proceeded from the lower divided end. The situation of the wound making the dissection difficult, and the foot being partly lost, I determined on amputation above the knee, which was performed at Olivenca. The amputated leg was sent after me to Elvas, that it might be examined at leisure. I carefully traced the course of the wound, and found in it a little coagulated blood, but could not see the mouth of the vessel. A probe passed into the amputated end of the artery was obstructed before it reached the ulcerated surface by near an inch, and on passing it up the lower one, it was stopped exactly in the middle of the track of the ball by a veil or substance drawn across the mouth of the vessel, and which, on careful examination, showed the point of the probe at one part of the circle, although too small to let it through; and from this part I conceive that the hæmorrhage came. The divided ends were one inch apart; each portion was removed with the spots on which they terminated, and opened in their course. The upper or femoral portion was filled, for nearly an inch, with a firm coagulum, closing up the contracted mouth of the vessel like the gradual diminution of the neck of a claret bottle; a layer of coagulable lymph covered the mouth and immediate vicinity, and appeared to have a commencing organization. The vein was closed in the same manner. The lower or popliteal portion of the artery was very peculiar; the substance drawn across appeared to have closed it completely at one time, and to have given way from the rough motion of the car at the point now open, and which is very small, even when the sides of the artery are approximated. A very little soft coagulum was behind it; and if the man had not been removed, and shaken, I think the vessel would have remained secure. This case shows very distinctly the means adopted by nature for the suppression of hæmorrhage from either end of a divided artery eighteen days after the accident had been received. The following case will serve to show its state at the end of twenty-seven days, when in fact the cure was accomplished.

Serjeant Lillie, of the 62nd Regiment, aged thirty-two, was wounded on the 10th of April, 1814, by a musket ball in the right thigh, which passed in an oblique direction downwards and inwards, close to the bone, describing a track of seven inches. He lost a good deal of blood at the time, but which was arrested by pressure. On the 29th dark-coloured blood flowed in large quantity from both wounds, and the officer in charge placed, contrary to my directions, a ligature on the femoral artery, some distance above the wound. On the 7th May, eight days afterwards, the bleeding returned, and the limb was amputated, and the man died. On examination of the artery, it was found to have been divided where it passes between the triceps muscle and the bone; the upper end was closed; a probe passed in from above would not come out on the face of the wound, although the impulse given to the part by it was observable in the middle of a large yellowish spot, which from its appearance I had previously declared to be the situation of the artery. The vessel when taken out was found contracted at its end, in the shape of a claret bottle, for about an inch, and a small but internal coagulum, floating at the upper end, was observable in it for nearly the same extent.

The *lower* end of the artery, from which the hæmorrhage had taken place, was marked by a spot of a similar character, but on passing a probe from below upwards, it came out at a very small hole in the extremity of the artery at the centre of the spot, the canal below not being contracted as in the artery above, the end only being apparently closed by a layer of the yellowish-green lymph laid over it and adhering to its circumference.

It is a very curious and interesting fact, that the lower end of a divided artery is more prone to secondary hæmorrhage than the upper; so much so, indeed, that when it occurs after having been arrested for a period of four hours, it takes place in all probability from the lower end. This may always be known from the darker colour of the blood, and from its flowing out in a continuous stream, in the same manner as water rises from a spring, and not with any arterial impulse. The surgeon has therefore no right to believe that the blood comes from the upper extremity of the artery, unless it is of a florid, scarlet, arterial colour, when it will usually rush out with force, if not with the undisguised arterial impetus.

I suspected that the lower end of an artery did not possess the same power of retracting and contracting as the upper part; but further observation satisfied me, that although I might be correct in these points, still that the contracting power was very considerable, and in some cases sufficient to close, or nearly close, the lower end of the femoral artery, when divided in the common operation of amputation just above the knee. The retraction and contraction may not be so complete as in the upper end of the vessel, and they are probably not so permanent. Other circumstances led me to suspect that the internal coagulum of blood was not so perfectly formed; and I have reason to believe, both from observation and experiment, that this is the case. When the artery is fairly cut across, the blood is not continued into the canal below, which is emptied in the first instance by the action of the capillary vessels. A small quantity flowing from the upper extremity may insinuate itself within the contracting lower orifice, and remain within it, which I think I have seen occur in experiments made for the purpose of ascertaining this fact. Where the collateral circulation is powerful or active, the blood soon regurgitates in the artery, particularly if the person be young; but the force of the regurgitation can be in no proportion to that of the propulsion at the other or upper end of the vessel, which nevertheless will remain closed, whilst the lower one opens after the lapse of a few days, and bleeds. In all those cases I have had an opportunity of examining, in which hæmorrhage had taken place from the lower end of the artery, the following appearances were observable:

The same kind of yellowish-green matter marks and covers the situation of the lower extremity of the artery, as it does the upper; it is, however, thinner where it immediately covers the end of the artery, which in none of these cases was contracted in the conical manner I have described as occurring in the upper extremity of the vessel. On the introduction of a probe into the artery with the greatest gentleness from below, it made its appearance at a point on the yellow space, raising a thin portion of it as it protruded. On laying open the artery, the orifice seemed to have been once closed by this layer of fibrin or lymph, but without a degree of contraction corresponding to that observable in the upper end of the same artery; the layer still forming an obstacle, sufficient to cover and close three-fourths of the orifice, the blood having flowed through the remaining fourth.

These appearances seem to indicate a process in nature different from that adopted for the closure of the upper end of the vessel; and the frequency of their occurrence to demonstrate that the process is a natural one. I have therefore been led to conclude that the retraction and contraction of the lower end of a divided artery is neither so perfect nor so permanent as at the upper end; and that the internal coagulum is in many instances altogether wanting, or very defective in its formation; giving rise to a very different result from that which is observable in the upper divided end of the same vessel.

When hæmorrhage is suppressed by *art*—*i. e.*, by the application of a small round ligature, its first effects on a vessel of the size of the femoral artery, are, that the sides of it are brought together in a folded, plaited, or wrinkled manner. The outer inelastic coat, and the outer or elastic layer of the middle coat, are compressed and even strangulated, but not divided, and if the ligature be removed, an indentation only remains showing where it had been applied. If this same artery be slit open, the inner or muscular layer of the middle coat and the two layers of the inner coat or tunic will be found divided. Of the six layers of which an artery is composed, the three outer are indented, the three inner are divided. The next part of the process differs from what is usually received as demonstrated. The three inner layers are not only divided, but are curled inwards, so that the cut *edges* of the inner circle of the artery are brought in contact under the pressure of the elastic coats of the outer, from which they are separated, and meet each other in such direct apposition as to be able to unite in the simplest and readiest manner, some lymph or fibrin being poured out within and without them. The barrier thus set up is that of the simple line of union of the three inner layers of the vessels, supported, but not aided in its formation, either by the inner surface of the artery above the ligature, or by the outer elastic or inelastic layers of which it is composed. The ligature causes these layers to die under its pressure, and to slough away with it, leaving the extremity of the vessel, and its barrier resisting the flow of blood, covered for some distance by a thick layer of fibrin, which, in time, is consolidated with the surrounding parts. Whilst this process is going on at the cut extremity of the artery the vessel is gradually contracting above it, and it is usually believed that it does so up to the first collateral branch, but this is an error. The diminution in size of the vessel is not a necessary part of the process, it is merely accidental, dependent on the situation of this branch. I have seen several instances in which the artery has remained pervious below the collateral branch, next immediately above the part where the ligature has been applied. Neither will the presence of a collateral branch immediately above where a ligature has been placed on an artery always interfere with the consolidation of the wound in it; for I have so often seen large arteries heal, after division, close up to the giving off of a considerable branch, that I consider they are always capable of doing so, provided they are in a sound state. The error that I thus pointed out, is one that often bears with a bad effect on the practice of surgery, and cannot be too soon abandoned. It has been repeated by one surgeon after another, without due investigation, just, in fact, as we find the opinions or quaint sayings of Celsus, Galen, and the ancients are occasionally repeated in the present day as acknowledged facts in physic and surgery.

There is, in the Museum of the College of Surgeons, a preparation of the left common iliac artery, in the middle of which I placed a single thread of dentist's silk. The patient lived a year. The ligature merely divided the parts in the manner I have pointed out, as they are united as it were in an almost uninterrupted *single line*, constituting, nevertheless, a *barrier* of sufficient strength to resist the whole force of the blood impinging against it within an inch of the bifurcation of the aorta. The proof of all I have stated is, in this case, so clear, so distinct, so irresistible, as to be *conclusive* to those who are willing to be convinced.

ANÆSTHETIC PROPERTIES OF THE DUTCH LIQUID.—Dr. R. M. Glover, of Newcastle-on-Tyne, has written to us respecting the Dutch liquid, chlorhydrate of the chloride of acetyl—(C_4 H_3 Cl, H Cl,) which has been stated to be superior to chloroform as an anæsthetic agent. Dr. Glover, who published remarks on the medicinal properties of this substance in 1842, reports to us, in the communication just received:—"I have now used it in several cases, and my opinion is, that although it will undoubtedly act as an anæsthetic agent, as speedily, and I think as well, as chloroform, it does not possess any advantages of moment over that substance, and least of all, any likely to compensate for the great expense of its preparation."

ON A CASE OF ELEPHANTIASIS SCROTI.

By F. Godfrey, Esq.,
Superintending-surgeon, E. I. Co.'s Service, Madras.

Lazarus H——, an East Indian, aged thirty, resident at St. Thomé, in the suburbs of Madras, by trade a tanner, ten years married, and for the last nine has been afflicted with elephantiasis scroti, during which period has not had the least sexual desire. The tumour is of immense size, hanging down nearly to the level of the ankles, and causing him by its bulk and weight great difficulty in moving about. The following are the dimensions, as taken in the erect position: length from superior to inferior part twenty-six inches; circumference, one yard and a half; general shape ovoid; feels dense, brawny, œdematous, and, on percussion, some deeply seated fluctuation is perceptible; the surface is not warty, (as frequently observed,) but studded with small superficial ulcerations, which itch, smart and prevent sleep; the præputial opening on the anterior surface, is about ten inches below the pubes; rather singular in appearance, being of an arch-shaped figure, (convexity upwards,) with a strong, well-marked vertical line formed by the frænum, extending from the concavity continuously downwards to the raphé; this opening readily admits the finger, and on introducing a rounded piece of wood to the extent of ten inches, (not having a probe of sufficient length,) the patient was conscious of its touching the penis. On proposing to remove the tumour by operation, he readily assented, saying that it rendered life miserable and burthensome to him; he was removed in a bandy to the Vepery Dispensary, (October 14th, 1850,) for greater convenience of operation, subsequent treatment, and for the benefit of the able assistance of Dr. Kellie, Surgeon of the Institution. Chloroform was administered, to the extent of half an ounce, which produced only a violent and uproarious state of drunkenness; the operation was therefore deferred, as it appeared probable (from the man's habits) he had been drinking, and which, on further inquiry, proved to be the fact. On the subsequent day, (October 15th,) the patient was again placed on the operating table, and two drachms of chloroform produced perfect anæsthesia. It had been previously determined on not to attempt the preservation of the testes, which would protract, not only the operation, but increase the chance of fatal termination; moreover, the total want of venereal desire for so many years seemed almost conclusive as to the degeneration or atrophy of these organs; it need scarcely be said that they could not be distinguished by any external examination; the groins had also been carefully examined with reference to the chance of rupture, and though this complication did not appear to exist, yet the thickened state of parts made the examination uncertain, and rendered caution in this respect necessary.

The operation was performed in the following manner:—The patient being on his back, and the tumour supported on a small table, about eight inches lower than the body, a piece of stick, (by a way of a director,) about half an inch in diameter, flattened on its upper surface, was passed into the præputial opening to the extent of ten inches, and the thickened intervening mass divided until the glans penis became distinguishable: the bleeding was rather free, but venous. Division of the integuments was then made, about an inch deep and seven or eight inches in length, obliquely from the outer part of the right groin, which extended to and joined the upper end of the first incision. Several small arteries were divided, and quickly ligatured. The cord could be felt rather deep, and the non-existence of rupture satisfactorily ascertained. The incision in this same direction was then carried deeper, and the instant gush of blood was terrific, chiefly dark-coloured, but apparently from both ends of greatly enlarged veins, (whose mouths seemed to be kept permanently open, in consequence of firm adhesion to the hypertrophied mass.) All attempts to stop the hæmorrhage by pressure or sponges were futile; the blood welled out with great rapidity, quickly filling up the deep wound; the pulse was becoming feeble; the skin covered with sweat; the system evidently greatly suffering, though the man was quite unconscious. No time was to be lost in removing the whole mass, and getting a clear view of the bleeding surfaces. An incision was therefore, without delay, made across the left groin, corresponding to that on the right; the non-existence of hernia ascertained, and with an amputating knife, guided so as to avoid the penis, the whole neck of the tumour was rapidly cut down to the posterior surface, but not through the skin; the edge of the knife was then inclined forwards, cutting out a good-sized integumental flap from the under surface, and the tumour at once removed. The flow of blood was for a short period profuse; but when the whole surface was fairly exposed, was quickly subdued by pressure and ligatures. The man became very low, and stimulants were freely given. Several small masses of the diseased structure which remained were dissected out, and the posterior flap united to those of the groins by means of needles and twisted sutures, (as in hare lip;) eighteen needles were introduced, which brought the parts into apposition; the loose ends of the ligatures were then crossed over between the needles, which effected the accurate closure of the intervening spaces of the wound. The penis, it should be mentioned, was dissected out, and left pendulous at its normal situation, to effect which the integuments were obliged to be divided longitudinally higher up towards the pubes. On the 18th of October all the needles, eighteen in number, were removed, and the wound found in great part to have healed by the first intention.—21st: Has been progressing favourably, though complaining of some pain across the loins and in the course of the spermatic cords, for which opiates were administered with benefit. I rather think these symptoms were occasioned by the ligature on the left side having enclosed the vas deferens.—24th: Removed all ligatures from the arteries.—Nov. 9th: Nearly well, and is improved in condition. A small fungoid wart has arisen on the right foot, about the size of a walnut, around the neck of which a ligature was tightly tied. a seton was passed across the loins by way of a diverticulum for any morbid action that might be existing in the system, and aperient medicines given. On the 20th November he returned home, and has continued well to the present time. It may be mentioned that the common straight needles employed in closing this wound kept the parts firmly and accurately in apposition, and appeared preferable to ligatures, being more readily passed, and causing less pain. The diseased parts, on examination, were found to be made up of hypertrophied cellular tissue, infiltrated with a semi-transparent gelatinous matter. The testes were atrophied, and the tunicæ vaginalis much thickened. and containing each about four ounces of fluid; there was also an abscess near the centre of the tumour, containing about one pint of pus. The diseased mass was found to weigh seventy pounds, and would have weighed much more had not the fluid which it contained escaped. Cases of this nature require the utmost caution and celerity in operation. The removal of a mass, weighing perhaps half or even more than the patient's body, must give considerable shock to the system; but what appears to be the cause of the greatest danger in these operations is the profuse and sudden flow of blood, which cannot be readily commanded until the surface be fairly exposed by the removal of the parts. With a view to lessen this source of danger, I would on future occasions consider it advisable to pass a long, powerful needle quite through the neck of the tumour on either side of the situation of the penis, armed with very strong ligature, which should be firmly tied on the outer sides, so as to enclose the neck of the tumour in two halves. This would be a means of arresting, if not entirely stopping, the circulation until after the completion of the operation, when of course they should be removed. I may observe, that chloroform appears to me objectionable in operations where the loss of blood must necessarily be great; the system feels the loss of the circulating fluid; the skin becomes bathed with cold sweat; the pulse falters and stops. You may endeavour to rouse the patient by dashing cold water, using stimulants by the mouth, nose, injection, or by employing artificial respiration; but the body having been rendered by the anæsthetic agent insusceptible of ordinary stimuli, little or no effect is produced—in fact, the only thing of any apparent utility is the application of cold water; and if it should fail, all is lost; the patient passes unconsciously from life to death, and perhaps on the operating table, "dies, and makes no sign." This is no imaginary description: the distressing occurrence I have since witnessed at an operation similar to the one described.

ON

A CASE OF LITHOTOMY IN A CHILD.

By James Smyth, Esq., Surgeon.

W. A——, aged six years, had exhibited symptoms of stone in the bladder for fourteen months previous to my attendance, which commenced in October, 1849. The urine being highly acid, alkalies were prescribed, and subsequently continued, under the impression that the calculus might be thoroughly dissolved. Of those most noted, several were tried to little advantage, but a most decided benefit followed the administration of iodide of potassium, in the dose of three grains, increased afterwards to eight grains daily.

The urine was quickly corrected, and continued alkaline during its use; and when examined, it was frequently found to be loaded with lithic deposit, of which a piece of the size of a small pea was passed *en masse*, at two different periods. Prolapsus ani was here present from the commencement, yet the prostate gland was unusually small.

After ten months' perseverance, the above treatment had unfortunately to be discontinued, from the patient's constitution becoming seriously affected. In attempting to void urine the pain was daily increasing in frequency and severity, each paroxysm inducing protrusion of the rectum, sometimes to the extent of four inches. Violent darting pain in the left eye was also constantly complained of, for which and for the foregoing symptoms, various remedies were employed for three weeks, without any alleviation. Hectic supervened, and lithotomy being deemed advisable, the lateral operation was performed under the influence of chloroform, from which there was no untoward result. An uric acid calculus of the size of a flattened walnut was removed, with but little hæmorrhage and difficulty. During the operation the rectum was allowed to protrude; retraction took place immediately afterwards, and no prolapse has since been observed. Three days after the operation, the urine was voided naturally, and eleven days subsequently the patient was able to run about. One thing worth observing in this case is, that the boy's partiality for sugar, which has characterized him since infancy, still continues unabated.

CASES OF STRICTURE TREATED BY EXTERNAL INCISION.

By James Syme, Esq., F.R.S.E.,

Professor of Clinical Surgery in the University of Edinburgh.

It may be proper to repeat that this series of cases is intended to illustrate and establish the following positions:—

1. That strictures of the urethra may be divided by external incision upon a grooved director passed through the contracted part, without incurring any of the ordinary dangers attending surgical operations. ("I have now operated on *thirty-eight* cases without any fatal result.")

2. That there is no stricture of the urethra through which such a guide for the knife may not be passed, not by force, but by gentle insinuation, so as to cause neither pain nor bleeding.

3. That strictures of the utmost obstinacy and greatest disposition to resent interference, even of the gentlest kind, may thus be speedily removed, so as to permit the introduction of full-sized instruments without difficulty or inconvenience.

4. That the relief thus afforded is more permanent than that which can be obtained in any other way.

Case 2.—George T——, aged forty-five, began to suffer from stricture about eight years ago. Between six and seven years ago he was twice under my care; first for a short period, during which the contraction was only partially dilated, and afterwards for six weeks, when the process was completed through the use of simple bougies. He then went to Canada, and was employed in a remote part of the colony as the agent of a mercantile establishment. Finding the stricture again troublesome, he had repaired to ——, where various attempts were made to pass instruments, but without success. In these circumstances he was advised to seek my assistance; and having crossed the Atlantic with this view, was admitted into the Royal Infirmary on the 12th of June last. The perinæum was greatly swelled and very hard, so as to form with the posterior part of the scrotum one mass of induration. On proceeding to examine the urethra, I found a tight stricture anterior to the bulb, through which a bougie of the smallest size was passed fairly into the bladder at the first attempt. I then carried on the dilatation with the effect of removing the perinæal hardness, and relieving the patient from his distressing symptoms, so that he was dismissed as cured on the 11th of September.

On the 21st of November he returned in a worse plight than ever; the swelling in the perinæum having recurred to more than its former extent, and there being not only very frequent calls to void his urine, but also an inability of retaining it. I had no doubt that through the use of bougies temporary relief might again be afforded; but from the repeated relapses which had taken place, distrusting the permanency of any good effect obtained in this way, I concluded that division of the stricture would be expedient, and, to facilitate this proceeding, made a free longitudinal incision through the perinæal swelling, which was afterwards poulticed for a few days.

On the 28th, the swelling having become greatly diminished in size and hardness, I introduced a grooved director, divided the stricture, and secured a moderate-sized catheter in the bladder. The bleeding at the time of the operation and subsequently to it did not altogether exceed two tea spoonfuls. The catheter was removed on the 30th. The urine came partly by the urethra and partly by the wound until the 17th of December, when it flowed entirely by the natural channel. On the 24th the wound was completely healed; instruments of the largest size were introduced and withdrawn without the slightest difficulty or feeling of constriction, and the perinæum was perfectly natural in form as well as consistence. The patient remained another week, and was then dismissed, expressing the most confident persuasion, founded upon the difference of his feelings from those experienced on any former occasion of relief, that he was at length free from stricture; his reply, when asked how the stricture was, always being, "I have no stricture now."

Case 3.—Towards the close of 1844, Dr. Wickham, of Penrith, brought me a patient, apparently labouring under formidable disease of the urinary organs. His age was about 45 years, during twenty-seven of which he had suffered from stricture of the urethra, and been under the treatment of various practitioners. Latterly, finding the complaint more troublesome than at any previous period, he had repaired to a surgeon in Yorkshire, who had formerly afforded relief, and remained under his care for many weeks, without experiencing benefit, or indeed ever getting an instrument passed through the contracted part; and, in addition to his other sufferings, he became afflicted with a swelling in the perinæum, of such stony hardness, as to suggest the suspicion of carcinomatous degeneration.

On examination, I found that a full-sized bougie could be carried down to the verge of the anus, and consequently beyond the region of stricture, but no farther; from which I inferred the existence of a false passage, resulting from the means that had been used, through the forcible and continued pressure of a large catheter with the view of thus effecting dilatation—a method, it may be remarked, which, like some other means of treatment, is most applicable to those cases where the stricture exists only in imagination. The perinæal swelling was about the size of a hen's egg, distinctly circumscribed, and extremely hard, but on the whole suggested the idea of its being the effect of local irritation, rather than of malignant action.

I therefore commenced the treatment by making a longitudinal incision in the course of the raphé of the perinæum, and then applying poultices with the effect of greatly reducing the induration and enlargement. Through careful exploration of the urethra, a small bougie was then conveyed into the bladder, and followed by a succession of larger ones, until the patient seemed able to go home with the prospect of complete relief. In a very short while after doing so, he began to suffer as before, and in the spring of 1845 again placed himself under my care, with all the symptoms of stricture in their most aggravated form.

I then resolved to divide the stricture by external incision, and did so upon a grooved director, which was with some difficulty guided through the contraction. Upon trying to pass a catheter into the bladder, I encountered an unexpected difficulty, from the instrument constantly taking the false rouse, so that after descending to the verge of the anus, it could not be advanced farther. Concluding from this that the contracted part had not been sufficiently divided, I reintroduced the director, and extended the incision through the urethra beyond the orifice of the false passage; after which, a catheter was readily conveyed into the bladder. The patient experienced no inconvenience, and in the course of two or three weeks was completely restored to health, far beyond what he ever expected, or almost recollcted, to have enjoyed.

About three years afterwards, having as it was alleged, led a rather irregular life in the interval, he returned under the apprehension of a relapse being threatened; but I found that the urethra, though slightly contracted, readily admitted instruments of the full size, and therefore sent him home, with advice to have a bougie passed occasionally by Dr. Wickham. In a letter from this gentleman, dated the 11th current, replying to an inquiry from me as to the patient's state, it is said that he had bougies passed regularly for a considerable period, but for a long while past has not made any application for the purpose. Dr. Wickham adds, "I have always considered this as a capital case, and should any of my patients get into the same state, I shall strongly recommend the same means of relief to be used."

While professional opinion at home is so much agitated in regard to the treatment of stricture, it may be interesting to know what view of the subject has been taken by our brethren of the Antipodes, and I therefore add the following extract of a letter from Dr. Macewan, of Sydney, addressed to Mr. Spence, Lecturer on Surgery, and Assistant Surgeon of the Royal Infirmary here. It is dated September 8th, 1850.

"With regard to Syme's work on Strictures, which you sent me, I had already put that practice in force (having learned it from his Pathological and Surgical Essays) twice, with the best and most perfect success. In the first case the man applied to me four years ago; the stricture was where the penis folds over the scrotum, and was cartilaginous to an extreme degree. I did no good to him, the sight alone of the bougie almost giving him constitutional irritation for three or four days. He left me, and hawked himself through the profession here with no improvement. I saw him in the street, a wretched object, a few days after reading Syme's case, about two years and a half after he forsook me, and prevailed upon him to come into the hospital. I rectified him a bit, placed him under chloroform, cut through the stricture, introduced No. 8, and dismissed him cured in three weeks. He has continued quite well since, and evinces his gratitude in divers uncouth ways. The other case was somewhat similar, except that it resulted from injury, and was situated farther back."

HISTORY OF A CASE OF GREAT DISTORTION OF THE PELVIS, IN WHICH DELIVERY WAS SAFELY ACCOMPLISHED BY THE OPERATION OF CRANIOTOMY.

By Robert Lee, M.D., F.R.S.

On Friday, the 21st inst., at eleven P.M., Mr. Dunn, of Norfolk-street, Strand, requested me to see a patient with him who had been forty-eight hours in labour, and whose pelvis was distorted in a high degree. The os uteri was imperfectly dilated, and no part of the head had entered the brim of the pelvis. Mr. Dunn thought, and I agreed with him, that the distance from the base of the sacrum to the symphisis pubis could not exceed an inch and a half—in fact, that it was nearly as distorted as the monster pelvis lately exhibited at the Medical and Chirurgical Society. It was believed that the patient was at the full period of pregnancy; and in proceeding to deliver with the perforator and crotchet, I expected to encounter very great difficulty. The head was readily opened, and the brain evacuated; and on fixing the perforator on the inside of one of the parietal bones, and extracting, not very forcibly, for a few minutes, the bone was detached from the other bones and came away. The remaining cranial bones were speedily crushed with the crotchet, the point of which was then carried outside the head, and fixed in one of the orbits. With this hold, in less than half an hour the head was extracted, with the employment of very moderate force.

The facility with which the delivery was accomplished, in this case of great distortion, arose from the circumstance that the labour was premature, contrary to our expectation: the fœtus, instead of having reached the full period, had only reached the end of the seventh month. Premature labour, in this case, rendered the operation of craniotomy safe and easy.

This patient had before been twice pregnant; the first time the child died prematurely, and was expelled by the natural efforts, as in the famous Cupar case. In her second pregnancy, the labour was difficult and protracted; but in what manner the dead child was extracted we could not certainly ascertain.

The history of the preceding case illustrates, in a striking manner, the truth of all my statements recently made to the Medical and Chirurgical Society respecting the Cæsarian operation, and the importance of the early induction of premature labour in cases of high distortion of the pelvis.

ON CERTAIN IMPORTANT POINTS IN THE CHEMISTRY & PATHOLOGY OF THE URINE.

By Dr. Hassall.

ILLUSTRATED BY NUMEROUS ENGRAVINGS.

(Continued from Feb. No. p. 147.)

OBSERVATIONS ON THE PRINCIPAL TESTS EMPLOYED IN THE DETECTION OF SUGAR IN THE URINE.

Acting upon the impression that much uncertainty and some errors prevail in reference to the tests ordinarily had recourse to for the detection of sugar in the urine, I undertook, some time since, a series of observations and experiments, the chief results of which I shall proceed to place before the profession.

These inquiries will not embrace the whole of the tests described in books, but those only which are in general use, and which are practically applicable, as the liquor potassæ, the copper, the nitrate of silver, the torulæ tests.

The Liquor-Potassæ Test.

First for consideration stands the liquor-potassæ test, one of the easiest and most frequently employed.

That liquor potassæ, when boiled with diabetic urine, deepens its colour, was first noticed by Mr. Palmer, dispenser to the Queen's Hospital, Birmingham. "This led him," writes Mr. Moore, "with myself, to consider that it might be made practically useful, and induced us conjointly to institute the following experiments, which clearly prove its utility."[*]

From this account of the origin of the liquor-potassæ test, it is obviously incorrect to assign to it, as is generally done, the name of Mr. Moore, to the exclusion of that of Mr. Palmer; it should either bear the names of both, or should simply be called the liquor-potassæ test.

In the first experiment, instituted by Messrs. Palmer and Moore, an excess of liquor potassæ was boiled with two different specimens of diabetic urine, the one slightly and the other strongly acid. "The result, in each instance, was the same—viz., the mixture first became flocculent, then again more clear. As ebullition commenced, the fluid acquired a slight yellow tinge, which gradually became darker, eventually presenting a *rich claret colour;* when set aside to cool, a reddish-brown precipitation took place, the supernatant liquor still having a rich claret colour."

In the second experiment, liquor potassæ in excess was boiled separately with two healthy urines, the one slightly and the other strongly acid, and as well as with an acid, albuminous urine. In neither case did any change of colour ensue, until after the addition to each urine of a small quantity of pure crystalline grape-sugar, when the same results were produced as recorded in the first experiment.

In the third experiment, grape-sugar was successively boiled with liquor potassæ and alcohol, and with distilled water and liquor potassæ, in each instance a *dark sherry colour* was produced. Cane-sugar boiled under the same circumstances presented but a very faint yellow tinge.

Lastly, boiled with distilled water containing the $\frac{1}{1000}$ of its weight of grape-sugar, liquor potassæ yields a bright amber colour, and as the quantity of sugar is increased, so is the depth of colour augmented; when the proportion of sugar in the tested solution amounts to $\frac{1}{80}$ the colour produced is that of a dark-brown sherry.

Having thus briefly stated the chief facts and experiments adduced by Messrs. Moore and Palmer in favour of the liquor-potassæ test, we will proceed to quote, in chronological order, the statements of several more recent writers relating to it.

Dr. G. O. Rees[*] writes:—"Solution of caustic potash, boiled with an equal bulk of urine, is an excellent test for the presence of sugar, rendering the mixture of a dark rich brown colour, if that principle be present."

Dr. Prout[†] says—"When in small quantity, the presence of sugar in the urine may be detected by heating the urine with about half its bulk of liquor potassæ. The mixture should be boiled together for two or three minutes, when, if sugar be present, a deep coloured molasses is formed."

Dr. Golding Bird[‡] thus expresses himself,—"This very easily applied and excellent test was lately proposed by Mr. Moore, of the Queen's Hospital, Birmingham, and depends for its action on the conversion of colourless diabetic (grape) sugar into brown melassic (or perhaps sacchulmic) acid, under the influence of a caustic alkali. Place in a test tube about two drachms of the suspected urine, and add nearly half its bulk of liquor patassæ; heat the whole over a spirit-lamp, and allow actual ebullition to continue for a minute or two; the previously pale urine will become of an orange-brown, or even bistre tint, according to the proportion of sugar present. The subsequent addition of an acid generally causes the evolution of an odour of boiling molasses. This test appears to be remarkably free from sources of fallacy, as boiling with liquor potassæ rather tends to bleach non-saccharine urine than to deepen its colour."

Dr. Bence Jones[§] observes,—"When heat is applied to urine containing grape-sugar and liquor potassæ, the sugar is decomposed into formic, sacchulmic, melassic acids, and thence a great change in colour results; no precipitate forms, and, on this account, the test ought not solely to be relied on, as some deepening of colour may ensue when no sugar is in the urine."

It is now evident that by far the best account hitherto given of the potash test for sugar is that by its original proposers. I would call, however, particular attention to their statement, that while the colour produced by boiling liquor potassæ with diabetic urine is a "rich claret" that which ensues with grape-sugar, potash, and distilled water is a "dark sherry colour." To this statement I shall have again to refer.

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[*] Liquor Potassæ, a Test for Sugar in the Urine. By John Moore, Esq.—The Lancet, 1844.

[*] On the Analysis of the Blood and Urine, second edition, 1845.

[†] On the Nature and Treatment of Stomach and Renal Diseases, fifth edition, 1848.

[‡] Urinary deposits, second edition, 1846, p. 292.

[§] On Animal Chemistry, 1850, p. 114.

It will be observed, also, that Messrs. Moore and Palmer state, that when healthy urine is boiled with liquor potassæ in excess, no change of colour ensues; that Dr. Golding Bird asserts that boiling with liquor potassæ rather tends to bleach non-saccharine urine than to deepen its colour, and that Dr. Bence Jones affirms that some deepening of colour may ensue when no sugar is in the urine.

We have here, then, a remarkable difference of opinion.

We will now proceed to ascertain how far the opinions and statements above quoted are confirmed by some additional observations and experiments.

1*st Experiment.*—Liquor potassæ was applied in the ordinary manner to nearly colourless solutions of thirty-six different samples of cane-sugar, obtained either direct from the hogshead or from grocers. In each case the solutions were deepened several degrees in colour, and in general they assumed the tint of brown sherry.

2*nd Experiment.*—Liquor potassæ was added to a colourless solution of cane-sugar obtained from the sugar-cane itself. In this case, also, the solution acquired the colour of sherry.

3*rd Experiment.*—Twelve different solutions of white or refined cane-sugar were tested with liquor potassæ in the usual manner: five of the solutions were scarcely affected at all, but in the remainder a slight colouration became perceptible.

4*th Experiment.*—Solutions of twelve different syrups, made of white sugar similarly treated, all became slightly browned, and in general to a greater extent than in the previous experiment.

5*th Experiment.*—Liquor potassæ was added to three different and colourless solutions of grape-sugar in distilled water, containing respectively one grain, half a grain, and a quarter of a grain of sugar to the ounce: the first, on the application of heat, became of the colour of pale sherry; the second, of a straw colour, and the third was scarcely perceptibly coloured.

6*th Experiment.*—Three solutions of caustic potash, urine, and sugars, of the same strength as the previous solutions, were prepared. When boiled, the first presented the colour of dark brown sherry, the second of a pale sherry, and the third was straw coloured.

The colour of a portion of the same urine boiled with potash alone was between that of the two last solutions.

7*th Experiment.*—Twelve non-saccharine urines were subjected to the combined action of liquor potassæ and heat; in each case the urine became very perceptibly darker than before.

In order that the change in the colour of the tested urine may be the more clearly seen, it should be contrasted with an equal quantity of the same urine which has not been submitted to the test, and contained in a tube of the same size as that employed in the experiment with the solution of urine and potash.

8*th Experiment.*—Several solutions of diabetic urine and potash were submitted to the action of heat; the change in the appearance of the urine in each case was very marked, being of a dark reddish-brown colour.

From the above experiments, several conclusions may be deduced. It is generally stated by chemists that cane may be readily distinguished from grape-sugar by means of liquor potassæ. By experiments 1 & 2 it is shown that this is not the case, so far as sugar, as procured direct from the cane itself, and as well as the ordinary brown sugars of commerce, are concerned—but that the reaction with the alkali is to a very great extent the same in the two cases.

This identity of result is, no doubt, occasioned by the circumstance, that in the cane the two varieties of sugar are generally associated together.

By the third experiment it appears, however, that liquor potassæ has but little action on well-refined cane-sugar, and therefore by its means this form of sugar may be discriminated from grape-sugar.

By the fourth experiment, again, it is shown that even the moderate degree of heat employed in reducing lump-sugar to the condition of syrup has a tendency to convert cane into grape-sugar, the conversion being more complete as the temperature is augmented.

By the fifth experiment it is seen that not less than a quarter of a grain of diabetic sugar to the ounce of distilled water can be satisfactorily detected by the liquor-potassæ test.

And by the sixth experiment it appears that not less than half a grain of grape-sugar to the ounce of urine can with certainty be recognised by means of that test.

Now, if the quantity of urine passed in the twenty-four hours in health be considered to average about fifty ounces, and as where the urine is saccharine this quantity is considerably increased, it follows that as much as half a drachm of diabetic sugar may in some cases be eliminated by the kidneys in a day—an amount sufficient to indicate an impairment of the functions of assimilation, so serious as to affect considerably the powers of life, and yet elude detection by means of the liquor-potassæ test.

By the seventh experiment, it is shown that the action of liquor potassæ on non-saccharine urine is to darken it very perceptibly, and that therefore it is incorrect to say, with Messrs. Moore and Palmer, that this test does not affect any change of colour in healthy urine; or with Dr. Golding Bird, that "boiling with liquor potassæ rather tends to bleach nonsaccharine urine than to deepen its colour."

The observation of Dr. Bence Jones, that "some deepening of colour may ensue when no sugar is in the urine," was a step in the right direction, but it failed to go far enough.

A moderate increase in the colour of the urine, when boiled with liquor potass, is no proof, therefore, of the presence of grape-sugar in urine.

Finally, by the eighth experiment, it is shown that the colour of saccharine urine is very remarkably affected by boiling with liquor potassæ. Now, as healthy urine is deepened in colour, to a certain extent, by the same means, and as the depth of colour in the case of diabetic urine is so much greater than that of a solution of grape-sugar in distilled water similarly treated, it follows that the whole of the colour developed by the action of potash on saccharine urine, is not due entirely to the sugar present, but in part depends upon the action of the potash on some of the normal constituents of the urine itself.

It is evident therefore that we cannot safely rely upon the liquor potassæ test, unless in those cases in which the indications afforded by it are of a very marked character, and also that by its means we are unable to detect in the urine, with certainty, the presence of an amount of sugar which, continuing "de die in diem," is sufficient to indicate serious derangement of the assimilative functions, and to affect injuriously the health.

REPORT OF A SINGULAR CASE OF APOPLEXY.

By Ezra Harle, Esq., Surgeon, Islington.

On Wednesday night, January 15th, I was called to a poor "woman in a fit." A few minutes after she had fallen in the street, I was on the spot, and found her dead. At the post-mortem examination, we found the following, as I apprehend, unusual appearances conjoined. The brain was surrounded with blood, the ventricles filled, and a quantity at the base—in all about four ounces. This was sufficient to account for the death: but on examining the chest, we found the left lung unusually smaller than the right, marked with long-standing disease, and gorged with blood, sufficient of itself to account for death, as in ordinary pulmonary apoplexy. The other viscera were healthy.

The woman being of so spare habit, and about sixty-five years of age, causes the case to appear more unusual; so much so, that one can agree with the words of the deputy coroner, that "we should hardly suppose she had so much blood in her whole body." Thus proving that persons of very spare habit may be subject to *sanguineous* apoplexy.

In justice to the case, it must be said, that shortly before her death she had taken a "glass of gin," on returning from her "ironing work" in her usual health.

ON A CASE OF IMPERFORATE ANUS.

By F. Le Gros Clark, Esq., F.R.C.S.

Assistant-Surgeon to, and Lecturer on Anatomy at, St. Thomas's Hospital.

On Jan. 20th, 1851, I was called to the neighbourhood of Gravesend to see a newly-born infant, who was the subject of imperforate anus. I met Mr. Armstrong, of the above town, with whom I had the pleasure of acting throughout the treatment of the case.

The child, a male, was well developed, and *apparently* perfect in every respect: for the anus presented a natural appearance, and was pervious to the extent of about half an inch, and sufficiently capacious to allow the introduction of the little finger. On reaching the extremity of this *cul-de-sac*, (for such it proved), the finger was arrested by a firm, unyielding, membranous obstruction, against which not the slightest impulse could be felt, when the abdomen was pressed upon, or when the child cried. The infant was at this time barely two days old; but as it was evidently beginning to suffer from general distress, and rejected everything that was taken into the stomach, it was deemed desirable at once to take some steps for its relief.

The child was held on the nurse's lap, with the nates resting on her knees. Using my left fore-finger as a guide, I introduced along it a straight, narrow bistoury, with which I perforated the obstructing membrane, and then passed the knife upwards and backwards to the extent of an inch or more in the median line. Some venous blood, but no meconium, followed. I then introduced a director, but still no meconium could be detected. A slight impulse, however, was felt against the end of the director when it was pressed firmly upwards, and counter-pressure was applied to the abdomen. I regarded this as a doubtful evidence of an approach to the intestine; certainly as not possessing the same diagnostic value as a more general impulse and fulness would afford, when felt on the surface by the finger. Yet, as there seemed to be no alternative but the miserable one of abandoning the child, or that of making an artificial anus, I again took the bistoury, and guided it along the director upwards, backwards, and a little to the left side, to the extent of another inch. On withdrawing the two instruments together, meconium followed in abundance, with very little blood. The little finger could now reach the bowel. The relief was immediate, and the first meal, taken half an hour afterwards, was retained on the stomach. It was thought advisable, as the opening was a free one, not to interfere at first by the use of tents or bougies.

The case went on uninterruptedly well for more than a week, the motions being passed freely and easily, as Mr. Armstrong reported to me; and the state of the child was in every respect so satisfactory, that he did not consider himself justified in interfering locally, until, on the evening of the 28th, sickness and straining, without relief from the bowels, led him to make an examination, when he found the artificial opening so far closed as to render the introduction of a No. 8 urethral bougie difficult. The size of the bougie was subsequently increased.

Though some relief was thus obtained, the progress of the case was so far from satisfactory, that Mr. Armstrong requested another consultation with me. I accordingly met him on Feb. 6th. On examination with the little finger, the aperture of communication with the bowel could scarcely be detected, although a No. 12 urethral bougie could be forced through it. The fresh production which now constituted the obstruction seemed to be of that solid character which yielded, by elasticity, to the gradual dilating force of the conical bougie, and again closed when it was withdrawn. I introduced a director, and divided this obstructing mass with a common hernia-knife, backwards and on either side, to as great an extent as I deemed safe; and then relieved the bowels by introducing a pair of dressing forceps and opening the blades. The child lost a little blood at the time of this second operation, and was very poorly afterwards, but subsequently rallied. Mr. Armstrong has since diligently employed mechanical dilatation, introducing a bougie daily, and gradually increasing the size. He informs me that, at the present date (March 5), "the child is much improved in appearance, and is obviously gaining flesh. The water is passed freely, and the bowels are moved about three times each day, the motions being consistent, and of a good colour, free from mucus or blood. A bougie, rather exceeding an inch and a half in circumference, (about half an inch in diameter,) is passed up with great ease." Further on, Mr. Armstrong adds: "I made a careful examination of the rectum with my finger, which I was able to pass with very little difficulty. I found that the hard, dense, almost cartilaginous structures which you felt and incised, when I had the pleasure of meeting you before, had greatly diminished, and instead of resisting the admission of the point of the little finger, the bowel now admits the whole finger readily. The strictured portion is also dilatable, and the surrounding textures are soft, elastic, and yielding. Absorption is evidently going on; and the surface feels soft, as if something like a mucous membrane were being formed upon it. There seems every reasonable hope that the case will terminate in a perfect cure."

Remarks.—My reason for desiring to place the foregoing case on record is, not because it is unique, or even, pathologically, of rare occurrence, but because I regard it as belonging to a class of cases in which precedents are peculiarly valuable, as affording encouragement and supplying a ground of justification for making a bold attempt to save life. I am aware that these remarks do not apply where consultation is readily available, and where responsibility may be shared; but to some provincial practitioners, to whom these advantages are denied, precedents in a case which may occur to them but once in their lives must, or ought to, have their value. There is, moreover, but little risk of boldness, in this instance, degenerating into rashness—an observation which is of rare application in surgical practice; and I apprehend there are few who will deny that many infants, similarly circumstanced to that which forms the subject of this case, have been suffered to perish for want of decisive measures for their relief.

It is not my intention or desire to enter upon this subject at large. Suffice it to remark, that all cases of imperforate anus may be classed under two heads—those which may be relieved by an operation similar to that detailed above, and those in which the imperfection of development precludes the possibility of reaching the bowel from the anus. In the latter class of cases an artificial anus is the only alternative, and this may be made in the groin or lumbar region. The alternative, even if successful, is a miserable one; and the statistics of such cases are not of a very satisfactory nature, even as regards the protraction of life. The reader will find some statistics on this subject, collected in a valuable paper by Mr. Phillips, on “Intestinal Obstructions,” in the thirty-first volume of the *Medico-Chirurgical Transactions.* Of the former, or curable class of cases, two forms present themselves—those in which the gut is reached by simply incising the integuments or occluding membrane, and those (like the present) where the rectum stops considerably short of its proper termination. I have operated in one instance where I found the anus entirely wanting; and though in this case the superficial structures requiring division were about half an inch in thickness, the fluctuating bulging at the proper spot satisfied me of the proximity of the intestine. Nature, almost unaided, completed the cure.

I propose briefly, in conclusion, to point out the practical inferences to be drawn from the case recorded in this communication. I believe the best instrument for opening the bowel to be that which I employed—viz., a straight, narrow bistoury, and the best guide to be the finger, as far as it can reach. Though prepared with a trochar and canula, I preferred, in the second and deeper incision, using a director and the straight knife. At first I cut in the median line, keeping near to the sacrum: but in carrying the incision deeper, I felt the propriety of directing the knife a little to the left side, in order to meet the corresponding inclination of the rectum in the upper part of its course. The full depth to which the knife was passed before the bowel was fairly opened (including the half inch of cul-de-sac) must have been two inches and a half. I rather dreaded the possible loss of blood, but the result proved that this fear was ungrounded. The communication with the bowel being free, I considered it advisable to allow a short interval to elapse before any mechanical measures were resorted to for securing the permanency of the opening. In a similar case, it would probably be desirable not to allow more than two, or at most three, days to elapse without the employment of dilatation; and I should give the preference to a well-constructed and rather conical bougie over any other instrument: the latter progress of the case proves that such an instrument is sufficient for the re-establishment of the almost closed opening. I proposed the use of a gum-elastic tube, to be constantly worn; and such an one was constructed; but the satisfactory progress of the case, under the use of the bougie, superseded the necessity for its employment. One further remark I would make, which, indeed, could not but force itself upon my attention,—I mean, the importance of keeping the bowels in a relaxed state whilst there exists any tendency to contraction. Fortunately, constipation is not common at this early age; but I felt that, at one period, it would probably have proved fatal in this case. I cannot form any idea, from examination, of the nature of the tissues I cut through at first; but I apprehend they must have been of a condensed areolar character. The dense structures which required subsequent incision were clearly the product of inflammation; their gradual removal under the employment of the bougie is an encouragement to be satisfied with similar treatment under parallel circumstances.

ON A CASE OF

OBSTRUCTION TO MENSTRUATION BY. AN IMPERFORATED HYMEN.

WITH REMARKS ON THE PREVALENCE OF QUACKERY IN WALES.

By J. Jones, Esq., Surgeon, Llanfair.

I was requested in December, 1849, to attend a female, aged nineteen, who was represented to be suffering from intense abdominal pain and swelling. On visiting the patient, I found her apparently in the agonies of labour, the abdomen being enormously distended, but soft, and wanting that hard feel so characteristic of pregnancy at the full period. The vagina was occupied by what I at first supposed to be the membranes of the ovum, so tense and stretched as to be almost ready to burst; but a moment's further examination assured me that there was complete occlusion of the vagina by an imperforate hymen or some adventitious membrane. I forthwith plunged an abscess lancet through this membrane, when a treacle-like, inodorous fluid instantly issued forth, with such force as to squirt over myself and the by-standing attendants, and which in a very short time deluged the bed. Relief was instantaneous. The discharge continued in a stream for about an hour, when it gradually almost ceased. I afterwards further divided the hymen, which I found the obstruction really to be; and I left my patient with injunctions that she should be kept quiet for a few days, and that an aperient should be given her on the morrow. Three days subsequently, I heard she was convalescent, and she has enjoyed good health since.

I may add, that previous to my being called to this female, she had been for some days attended by an irregular practitioner. Had her death occurred while under his hands, there would have been no inquest, no post-mortem examination, and the affair would have been passed over as a case of ordinary death. There can be no conception of the deaths, or rather murders, occurring under circumstances akin to this, but which never come to light in Wales, where quackery is rampant. It is not uncommon in this country for dissenting ministers to practise physic; they traverse the whole principality, pretending to be curers of both bodies and souls, and our benighted, credulous peasantry, believing them to receive both missions by inspiration, believe also, of course, that they *can* do no injury, but are more likely to confer benefit than a person scientifically educated, which means, in their apprehensions, educated merely in “worldly wisdom.”

I know one celebrated character of this class, whose way of going to work is the following:—He gets himself proclaimed to preach in a certain neighbourhood on a Sunday, and it is a publicly understood matter that he will be accessible for consultation during the following Monday. He accordingly engages an apartment at an inn, or some place most convenient, where all who wish the benefit of his advice are desired to meet. He finally examines and prescribes for each individual, and for every prescription demands one shilling, but any larger sum is not declined. This worthy, although most illiterate, and ignorant of medical science, makes hundreds a year in this way. It is no credit to the respectable Christian body of whom he is minister, the Welsh Calvinistic Methodists, that they tolerate such proceedings among them.

Since writing the above, I have noticed that there is, in the last July number of the *American Journal of Medical Science,* a parallel case to the foregoing, where the unfortunate female lost her life simply through the hymen not being divided, as the post-mortem revealed; “the uterus and vagina being immensely distended, as well as the Fallopian tubes, with dark, inodorous fluid.”

It is stated, that "a consultation by two or three professed surgeons" was held respecting the propriety of operating in this melancholy and most shamefully treated case, but they decided against it. Culpable as our government is for its toleration, or rather patronage, of quackery, and its carelessness of human life, surely such an instance of criminal ignorance as this, were it to become known, would not escape condign punishment.

ALPHABETICAL NOTICES

OF SUBJECTS CONNECTED WITH THE TREATMENT OF DYSPEPSIA.

By Robert Dick, M. D.

(Continued from Dec. No. 1850; p. 551.)

Mineral Waters.—It is not our intention to give any detailed account of these, or of the appropriateness of some or all of them for the cure of a variety of diseases. We would desire, however, to take this opportunity of combating the fond prejudice of some persons, that the composition of natural mineral waters is (as regards our use of them as therapeutic agents) as happy as it possibly could be. Far from this being the case, we believe there is not one mineral water, whether of this, or of foreign countries, which *(as regards the treatment of disease)* Art might not compound better than nature has, by suggesting a diminution of some ingredients, an increase of others. In a medicinal point of view, for example, we have to regret the very sparing distribution of the iodides, bromides, and fluorides of sodium and calcium.

England is rather fortunate in the variety and efficiency of its mineral waters. It possesses a simple saline spring in Epsom, a *cold* carbonated chalybeate in Tunbridge, a *hot* carbonated chalybeate in Bath, a saline chalybeate in Cheltenham and Scarborough, a sulphuric chalybeate in Hartfell, a cold sulphureous in Harrowgate and Moffat, (in Scotland,) simple *cold* and very pure springs in Malvern and Holywell, simple *thermal* springs in Bristol, Buxton, and Matlock.

We shall very briefly notice some of the applications of the chief mineral waters.

Sulphureous waters, whether employed externally or internally, are *stimulant* and *alterative*, and are indicated in dartrous affections; in eczema and chronic impetigo, in psoriasis, lepra vulgaris, prurigo, &c.; in chronic rheumatism, gout, and in ankylosis. They are also recommended by some in chronic catarrhs, and in engorgements, simple or strumous, of the lymphatic glands; but we have not found their efficacy so marked in these last cases. They are of vast benefit in cases of wounds, more especially from gun-shots.

Chalybeate waters are *specific* in chlorosis, in anæmia, in atonic mucous discharges, such as leucorrhœa and blennorrhagia; in neuralgies not depending on plethora or inflammation, but on debility, &c.

Saline mineral waters are those which are only very slightly or not at all sulphureous, chalybeate, alkaline, or acidulous, but contain a greater or less proportion of neutral purgative salts. The waters heavily charged with these salts act purgatively; those less charged have a diuretic action.

Saline waters are indicated in engorgements of the abdominal organs, more especially of the liver; in jaundice, not depending on mechanical obstruction; in hyperæmic states of the stomachic, duodenal, and intestinal mucous membrane; in states of *systemic* plethora. On the Continent they are employed against biliary calculi, in vesical catarrh and in suppression of the menses; but I do not much, or often, rely on them in these cases. *Externally*, in general baths, or local effusion or fomentation, saline waters are of great efficacy in dry cutaneous eruptions, in lichen, prurigo, chronic eczema; they are also useful in removing the thick incrustations of *impetigo figurata*. They work often wonderful effects in chronic rheumatism, in affections of the articulations, and in contractions of the muscles.

Alkaline waters, or those that abound in the bicarbonate of soda or potass, are of great benefit in two sets of cases—namely, those in which uric acid is formed in excess, and in the allied derangement—gout. Under their use, the acidity of the urine is moderated, and the renal irritation depending on that condition of the secretion is relieved. In gout there usually exists a preternaturally acid state of the secretions of the *primæ viæ*, perhaps even of the blood itself. The alkaline waters correct this morbid and irritating condition, to the sensible relief of the patient. A similar acid state of the secretions of the stomach, duodenum, and intestines is a frequent cause of severe dyspepsia and almost intolerable spasm and griping in the jejunum and colon. A course of alkaline waters brings relief in such cases.

In treating of *mineral* waters, it may seem out of place to refer to *distilled* water, but I cannot forbear here adverting to the occasional remarkable benefit derived from this means. It will be known to some of our readers that the late Dr. Prout often prescribed it, and in two or three cases which the writer attended along with that distinguished physician, and in which distilled water was habitually employed at Dr. Prout's suggestion, good effects followed. In one case, threatened saccharine diabetes seemed to be averted. The writer has recommended the use of distilled water, with benefit, in cases of fœtid halitus from the skin, accompanied with a dirty and greasy condition of that tegument. It cannot be doubted, that as a deobstruent agent, and one peculiarly fitted to *eliminate* foreign matters from the blood, none can excel *distilled water*.

Moschus.—Musk is an antispasmodic not much to be relied on. It is said to be aphrodisiac and hypnotic; but this is doubtful. Without adverting to its employment in other circumstances, we confine ourselves to remark, that we have conjoined it, with some seeming advantage, to the bitter tonics in hysteric cases; but we are far from being certain that the resulting improvement was not due altogether to the tonic accompaniment.

Myrrh acts as a mild aromatic stimulant of the digestive process, but is seldom given separately.

Naphtha, or, as it is called in France, naphthaline, which is a bicarbonate of hydrogen, may be employed in much the same cases as camphor. In some spasmodic cases it may be used as a substitute for hyoscyamus.

Nicotiana.—Tobacco cannot with propriety be passed over in these notices. There cannot be a doubt that its abuse is a fertile source of dyspeptic derangement. It at first increases, but afterwards diminishes, the secretion of saliva, as well as of mucus, and I doubt not that its protracted employment impairs the action of even the liver and pancreas. It not only lessens the amount of the saliva, mucus and bile; it also makes them thinner in consistence than they should be. It enfeebles digestion in another way—namely, by dulling the vigour of the pneumo-gastric nerves.

In counterpoise to these bad effects, it offers a single advantage. With many persons it acts a very sure, mild, and non-exhausting aperient. This effect it no doubt produces by its action on the sympathetic nerve.

Nostalgia.—While this malady is partly of moral origin, and naturally to be accounted for by separation from accustomed persons and scenes, yet no doubt the moral affection owes its chief force to the physical prostration caused by new air, diet, and habits.

Pancreas.—To the discredit of physiology the use of this organ is still unknown. There can be little doubt, that in the digestive process it plays an important part. Of late years the attention of anatomists and physiologists has been too exclusively engrossed with discoveries, or alleged discoveries, of the functions of the *nervous* system, some of which discoveries, even if all that is claimed for them were true, would add little to our previous knowledge, or to practical use.

Quassia Amara, and *Quassia Simarouba.*—Both these are tonics, without either astringent or aperient properties. Both are useful in cases of simple debility of the digestive apparatus, or of the system generally, in anæmia, in intermittent fevers, in spasmodic vomiting. The Simarouba is considerably employed in the West Indies against both diarrhœa and dysentery. It is alleged to moderate the griping and tenesmus of the latter disease; and, after a time, to restore the evacuations to their natural appearance and consistence.

Rheumatism.—We shall not venture to say that derangement of the digestive organs ever, *per se*, brought on regular rheumatism; but we think it undoubted that such derangement often *predisposes* to the disease, and gives effect to morbid causes, which would otherwise have proved inoperative. It is also certain that periodic accesses of rheumatism, as of gout, are preceded usually by very marked and obstinate disturbance of the *primæ viæ*. It is not our intent to discuss the nature and treatment of rheumatism, because these are quite apart from the subjects of these Notices. We shall only, in the briefest manner, advert to that part of the treatment of rheumatism which involves attentian to the digestive organs.

Acute rheumatism, and each fresh attack or aggravation of chronic rheumatism, are usually preceded or accompanied with a sluggish state of the bowels, and a diminished flow and altered quality of urine. The secretions of, and on, the mucous membrane generally are lessened. Hence, thirst is felt, and the tongue appears red and dry. The liver acts imperfectly, as is proved partly by the torpid bowels, partly by the light colour of the alvine discharge.

In these circumstances, pills composed of the extract of rhubarb, and calomel, or blue pill, will be found decidedly the most effective. With these, hyoscyamus may be given freely—namely, in doses of from ten to twenty, or thirty grains. After the temporary torpor of the bowels has been thus gently but effectually overcome, the kidney requires attention; the uric acid with which the system is loaded requires to be eliminated by art. For this purpose we usually order draughts, containing from two to five grains of nitrate of potass, and from ten to thirty minims of the wine of colchicum. It is seldom that this combination and this dose does not produce diuresis, with marked relief of the *malaise* which usually attends I would only premise, that in recommending the above dose, or any dose of colchicum, I take it for granted that the practitioner either previously knows its effects on the patient, or is prepared carefully to watch these.

All acids must be avoided, and this more especially by patients beyond middle age. Acids act injuriously in several ways. They reduce the temperature of the patient. Now, a deficient power of generating animal heat is one of the principal symptoms or accompaniments of rheumatism; and anything, medicinal or dietetic, that increases this inability, is to be shunned. Acids check the insensible cutaneous transpiration and the renal secretion, both of which, in rheumatism, should never be interfered with. Some portion of the acid or acids dietically or medicinally administered by the mouth, is necessarily absorbed, and adds to the difficulty the system already has of contending with superabundant uric acid or its constituents, and the unimpeded elimination of which ought to be the chief object of our care. I have only to add that I have seen not a few *first* attacks of rheumatism, and, still more *recurrences* of it, due to the use of acid fruit. I have consequently been surprised to observe the free use of lemon-juice recommended in the treatment of this disease. It is certainly one of the last things which my own experience would lead me to have recourse to. Considerable attention to rheumatism warrants me in recommending, as far before all other remedial means, the large and repeated use of opium, colchicum being used in the intervals to facilitate the elimination of superabundant uric acid.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, MARCH 11, 1851.—DR. ADDISON, PRESIDENT.

SEVERAL new fellows having been nominated, and the ballot having commenced, Dr. ASHBURNER, in presenting Dr. Reichenbach's work on Animal Magnetism, requested to say a few words respecting a statement which had been made at a former meeting, in relation to a case of mesmerism. He was proceeding, amid much interruption, to say, that a fellow of the Society had remarked, in reference to an operation which had been performed during mesmeric sleep, that the man so operated upon had acknowledged himself an impostor. Here the calls for the Chair became so general that Dr. Addison rose and explained to the last speaker that the Society could not be made the place to discuss points of evidence. The paper alluded to had been read a long time since, and the allusion to the subject of it, made on a late occasion by Dr. M. Hall, was to the effect that the medical men in attendance had been imposed upon. But, however anxious the gentleman interested might be to show the contrary, this was not the place to do it, and he must request that no such attempt would be made. It was entirely a question between the parties interested in the statement made. Dr. Ashburner and Dr. Cohen subsequently attempted to address the Society, but the interruption became so great that they sat down; Dr. Copland declaring that it was an insult to the Society for any gentleman to attempt to address them respecting a paper which ought never to have been read, and the record of which had been erased from the minutes. Silence being restored, a paper was read by Dr. WEBSTER, entitled

CASE OF SMALL-POX OCCURRING A THIRD TIME AFTER VACCINATION, WHEN IT PROVED FATAL.

After alluding to the fact, that hooping-cough, measles, and scarlatina generally occur only once during the lifetime of an individual, exceptions, nevertheless, to the above rule, as well in these complaints as in small-pox, have been recorded by authors. Three well-marked examples, of the recurrence of small-pox met with in the same family are related, one of which terminated fatally. The case especially referred to by Dr. Webster was that of H. N. A——, who had been vaccinated satisfactorily in 1827, when three months old. Notwithstanding this circumstance, he became attacked by small-pox in 1833, along with an elder brother, who had been likewise vaccinated. Both patients recovered, and nothing more was thought of the matter till 1838, when the two lads were again attacked by variola, along with another—that is, a third—brother, likewise regularly vaccinated. However, all three got quite well in due time. Subsequently, Mr. H. N. N——, whose case is now just mentioned, went to India in the Company's service, where he was seized, in April last, with the usual and well-marked symptoms of small-pox, which soon became confluent, and proved fatal at Dharwarinth, on the 13th of that month; this making the third time this gentleman had been attacked by variola, although previously vaccinated.

Case of Confluent Small-Pox after a third Vaccination.—By Dr. A. P. Stewart.

A gentleman, twenty-five years of age, who had been five years apprenticed to a gentleman in extensive general practice in Devonshire, had been most successfully vaccinated when six months old. Requiring to attend variolous cases, he had the operation repeated in July, 1849, without effect, and again in May, 1850, with much irritation, inflammation, and swelling of the arm, the lymph from the vesicle not communicating the disease. He came to London to begin his medical studies on the 13th of October last, having been exposed to infection the same morning. The train of premonitory symptoms set in on the 15th, and was followed (on the 17th) by the appearance of a closely packed eruption of papulæ all over the body. For four successive nights, mild delirium was present; but the sore throat and conjunctivitis occasioned by the pressure of vesicles were quickly relieved by the application of a solution of nitrate of silver; and the pulse, previously as high as 120, never rose above 100 after the seventh day. The vesicles, though very numerous on the hands and feet, caused little or no pain; on the eleventh day of disease, and seventh of eruption, they were at their height, and in the course of the next two days, had nearly all dried up and scaled off, with very trifling discharge. Thereafter convalescence went on rapidly. In the district where the subject of this attack resided, the popular prejudice against vaccination has always been so strong, that for a number of years it had been much neglected; and the parents are still in the habit of inoculating their children. During the last nine months, it has been practised to a very large extent, with so much secrecy as to defy the utmost efforts of the authorities to obtain legal proof, and with the effect of keeping up the disease during many months, and spreading it abroad over the whole district. It was introduced in April by a sweep boy, who took it in a town not far off, and, returning to his family, communicated it to his unvaccinated brothers and sisters. The latter, again, going to a lace-school, infected several of the other children, after which it spread rapidly in all directions. Several instances were adduced, as examples of a large number in which inoculation had entirely failed to protect those who had been subjected to it from secondary attacks; besides the case of a lady of title, whose mansion was in the infected district, and who had lately had a second attack of natural small-pox. The author then stated, as the result of his and Dr. A. Anderson's experience in the Glasgow Fever Hospital, from November, 1836, to November, 1838, that of the 126 cases admitted, 31 were vaccinated, 52 were doubtful, (consisting of unvaccinated, with a sprinkling of imperfectly vaccinated patients.) and 43 unvaccinated. The mortality among the "doubtful" was 1 in 3·06, or 32·7 per cent.; among the unvaccinated, 1 in 2·86, or 34·8 per cent.; while among the vaccinated it was only 1 in 31, or 3·2 per cent. The author concluded his remarks by adducing his experience in the north-west district of St. Pancras parish, during the epidemic of 1845. Those who had been successfully vaccinated, both children and parents, though exposed night and day, in their unventilated dwellings, to the concentrated infection of the disease in its worst forms, were proof against it; while those in whom the evidence of success was doubtful were not proof against the milder forms, and very often took the disease from convalescents whom they met in the open air. The author concluded, with Chomel, that "we cannot fairly exact more from vaccination than from the small-pox itself."

Dr. Mayo, in reference to the opinion of Chomel, that we had no right to expect more from vaccination than from inoculation itself, referred to an active epidemic, small-pox, which raged in Edinburgh in 1817, and which was described by Dr. Thomson. In this epidemic it was calculated that more persons had been affected by small-pox after inoculation than after vaccination, and of the first more had died, so that the difference in the protective power was in favour of vaccination over inoculation. He inquired if Dr. Gregory had seen the paper referred to. One important point in respect to vaccination was the influence of re-vaccination. What did it effect? Dr. Mayo then referred to some cases of small-pox which at first simulated measles, which occurred in the Middlesex hospital, to show the necessity of distinguishing between what might be only an apparent and not a real repetition of a disease.

Dr. Gregory said that the cases detailed were interesting, and contained much which was worthy of the consideration of the Society. With respect to the first case, in which a person contracted small-pox in advanced life after vaccination, and died in India, he might remark, that the disease was more fatal in warm climates, and the case in this respect was not remarkable. The similarity of the cases, however, consisted in the statement which had been made, that these patients had small-pox three years after, and again five years after vaccination. Now, he would beg to ask Dr. Webster, who attended these cases, was he acquainted with the medical man who had the patients under his charge? He asked this, in order that it might be determined if the disease under which these patients laboured were variola or not. Certain it was that he (Dr. Gregory) never saw such cases; they never presented themselves at the Small-Pox Hospital. He must therefore be excused from doubting whether these cases were really cases of variola until the doubt had been cleared up by further information from Dr. Webster. With respect to the second case, which was one of confluent small-pox after vaccination, it really contained nothing remarkable, except, indeed, the fact of re-vaccination having been practised and followed by local inflammation. This showed convincingly the little value of re-vaccination. He had held this opinion for a long time past. But by far the most important part of the paper was its closing paragraph, the doctrine of Chomel, "that we had no right to expect more from vaccination than from inoculation itself." These few words involved considerations of the highest importance, and it was certain that the attention of the profession and the public must be called to the entire question, and to determine the value of the dictum in question. What, for instance, did we expect from inoculation? By it we gave the small-pox to the person inoculated. We submitted the system to a subtle and violent miasma; the system fortunately took it mildly, passed through the disease, and thus the matter ended. There might be exceptional cases to this termination, but some might have the ill luck to have small-pox a second time; but he believed few entertained fear on this point. No one above fifty who had been inoculated, he believed, had the slightest fear of small-pox. He had certainly seen cases in which this had occurred, but the chances in favour of it were very small indeed. But did the facts with which we were acquainted warrant us in banishing this fear when vaccination had been resorted to? He believed not; facts did not warrant us in banishing such fear Up to puberty we might banish it. Cases of small-pox after vaccination up to the fifteenth year were very rare indeed; but after that period vaccinated persons were exposed to the chances of a first attack of small-pox, and were then liable to a second attack of that disease at fifty or sixty years of age. Thus inoculation was to give one attack of that disease and have done with it; vaccination was to do away with the disease altogether, as it did up to puberty, but after that the patient was liable to the disease. Now, we never heard of modified small-pox until the year 1817, or about fifteen years after vaccination was first performed. The cases of this disease had gone on increasing since the year 1825, and the results now were, that fifteen hundred patients had been admitted into the Small-Pox Hospital in seven years, with small-pox after vaccination; most of these were modified, but many were of a severe form of the disease. The deaths from small-pox after vaccination might be said to be a little above five per cent.; occasionally in some places, as in Copenhagen, for instance, it was as low as three per cent.; but taking the entire world it would amount to five per cent.

Dr. MAYO believed, that in the times previous to the epidemic to which he had referred, a great number of persons had been inoculated, that a greater number became affected with small-pox after inoculation than after vaccination, and that more of the first class than of the second died. If Dr. Gregory remembered the work to which he (Dr. Mayo) had referred, he begged to inquire into this point.

Dr. WEBSTER said, two observations which had fallen from Dr. Gregory were so important, that he must reply to them thus early. The first regarded the authenticity of the cases now brought before the Society, and whether they were genuine small-pox. On this point no doubt could prevail, as they were all attended by medical practitioners, who, as well as the parents, entertained no hesitation respecting the nature of the disease; whilst, in the particular case terminating fatally in India, the statement was made on the authority of the regimental surgeon, who attended the patient during his last and fatal attack of variola. Dr. Gregory had likewise stated that small-pox was generally more severe in warm climates than in England. This opinion was quite correct, and fully borne out by the case just related; hence, persons imperfectly vaccinated, and therefore unprotected, ran greater risks in such countries than elsewhere. In proof of this peculiarity, he would beg leave to recall to the recollection of the president an interesting case, which had come under his own immediate observation, in which the patient, although vaccinated when young, fell ill of small-pox during the time he was a student at Guy's Hospital. From this attack the gentleman in question recovered by the president's judicious treatment; but having subsequently gone to India, he there fell a sacrifice to that complaint. Another illustration of the same kind had also been mentioned to him (Dr. Webster) by Dr. M'Intyre, which merited record. It was that of an officer likewise serving in the East India Company's service, who became attacked by malignant variola, in the north-western provinces of Bengal, from which he died, although previously properly vaccinated in England. The brother of this individual, then travelling in South America, where small-pox prevailed, although both vaccinated and inoculated when young, got so alarmed and doubtful respecting his immunity from attacks of the above disease, that he was again vaccinated, after hearing of his relative's death in India. Notwithstanding this additional precaution, secondary small-pox, of a virulent sort, manifested itself, from which the patient would have died according to his medical attendant's opinion, but for the recent vaccination. This and the other cases further illustrated, in a marked manner, the predisposition to receive the variolus poison more than once, by members of certain families, especially in the examples narrated in his (Dr. Webster's) communication, although they were all vaccinated and also had small-pox previously. It was also curious that, in every instance, the males only were affected, whilst the sister of the three brothers just mentioned was not attacked by the malady. In bringing forward the present anomalous cases, it was not his (Dr. Webster's) intention to detract from the great protective benefits of cow-pox, but simply to record an illustration of a most unusual occurrence; and he would add, no one entertained a higher opinion of the benefits following vaccination, when properly performed, than himself, which seemed to be conclusively proved by the fact, that previous to the introduction of inoculation, one-tenth of the total mortality in England was occasioned by small-pox. After inoculation was introduced it fell to one fourteenth, but now when cow-pox has become more generally diffused than some years ago, the deaths by variola are nearly one in eighty-five from all diseases; thus amounting to only one-sixth of the ratio when variolus inoculation was the sole preventive.

Dr. HALLY begged to ask Dr. Gregory his opinion on the following point: If the protective power of vaccination lasted only to the fifteenth year, would it be advisable to re-vaccinate persons at that period?

Dr. GREGORY had not stated that the protective power of vaccination ceased at fifteen, but that up to that period the protection afforded by it was as great as that afforded by inoculation all through life. After fifteen, the system was subjected to another law. With respect to the question as to whether re-vaccination after fifteen renewed the protection, he might answer, that, in his opinion, re-vaccination was a proceeding of very little moment. It satisfied the mind of the public rather than effected any real good. If it satisfied the mind, why should it not be performed? Let it be so, by all manner of means; but not under the impression that it afforded any protection. Well, then, what was the law which prevailed with respect to the influence of vaccination after fifteen? The constitution, at that period, began to be susceptible, for the first time, to the influence of small-pox, and the susceptibility increased up to middle age and maturity. We had, however, he thought, means of increasing the protective power of the first vaccination by inoculation after the age of fifteen. The statute-law, in reference to inoculation in this country, prohibited experiments on this point. In France, another law on the subject of inoculation prevailed, not having the same object in view as in this country. Cazenave and others had performed many experiments on this point, which proved that inoculation after fifteen, in persons previously vaccinated did not produce a vesicular or pustular eruption, but only a papular one, and that this was not contagious. This he knew to be true, and he firmly believed it acted as a protection for life. Several Italian physicians had urgently requested permission from the Austrian government to follow out the experiments of Cazenave; but the authorities refused their sanction to the proceedings, though, in the Austrian dominions, the prohibition was by edict, and not by statute: hence the hardship of non-compliance with the request was greater.

Dr. **Copland** said his experience went to prove the correctness of Dr. Mayo's statement, respecting the protective power of vaccination until the age of fourteen being more complete than that of inoculation, and that the proportion of persons affected with small-pox was less from the former than the latter. When he commenced practice, he attended a family at Hackney, some of whom had come under his care with small-pox after vaccination: the vaccination had been properly performed, and the cicatrices were distinct and complete. The grown-up persons in the family had the disease very bad, and it became more and more modified as the ages of the patients decreased; so that in a boy of eleven years of age it assumed a nearly papular form. From these and other facts which had come to his knowledge at the time, he had arrived at the conclusion that vaccination excited only temporary protection from small-pox, and that it was not, as advanced at the time, a protection for life. This had been since proved to be correct. Dr. Copland then referred to a case of fatal malignant small-pox occurring in a lady who had been vaccinated twenty years before, in support of the opinion that the protective power of vaccination did not extend beyond puberty.

Dr. **Basham** thought that sufficient stress had not been laid upon the distinction which he thought ought to be drawn between perfect and imperfect vaccination. Many of the latter he believed were those who were affected with small-pox. The other day he had taken ten patients at random in the Westminster Hospital, and on carefully examining their arms, had found only four which presented the true fixed and characteristic cicatrix of perfect vaccination: the other six were spurious and bastard scars, and insufficient to determine that vaccination had been properly performed.

Dr. **Snow** said that he had attended a case of modified small-pox after vaccination in a child three years of age, and had seen other cases of modified small-pox in children—nearly as many, in fact, as he had seen in the adult. He would be glad to know from Dr. Gregory on what data he founded his opinion, that vaccination was an almost complete protection up to about the age of fifteen, and a much worse protection in after life. If this data were founded on the experience of the Small-Pox Hospital, he would suggest that it might be open to fallacy; for modified small-pox in children was so mild a disorder, that mothers would not think it necessary to send their children to an hospital on account of it; but when it occurred about the period of puberty, the subjects of it were generally away from their mothers, in situations where it was inconvenient to attend to them, and amongst persons who had a great dread of contagion, and the patients were consequently generally sent to the Small-Pox Hospital. We very seldom saw small-pox in persons of thirty-five, forty, or forty-five years of age, although the majority of people now living at that period of life depended for their protection on vaccination, and not on inoculation. The great body of practising medical men, for instance, had been vaccinated—not inoculated; and although they were every now and then called to a case of small-pox, they rarely took the disease. He could not, therefore, concur in the fears of Dr. Copland with respect to future epidemics of small-pox.

Dr. **Webster** remarked, as allusion had been made o Dr. Thomson's statistics of the mortality in small-pox occurring after vaccination, he might mention, amongst 71 cases of variola met with by that author, n persons previously vaccinated, only three died, or one in 24 examples; whereas, in 205 cases of primary mall-pox, 50 died, being one death in every four patients attacked. Indeed, a great proportion of the mortality from variola then occurred, as at present, amongst unprotected persons. For instance, during the last quarter, 69 individuals died at Nilston from small-pox, of whom 50 were not vaccinated. In the eastern division of Wolverhampton, amongst 61 deaths from the same disease, 46 never had undergone vaccination. In Dudley, where 60 persons likewise died from variola, 50 of these never were vaccinated; whilst at Coventry, out of 65 deaths by the same cause, only eight of the entire number were said to have had the cow-pox previously. But such occurrences were not surprising, considering the prejudices still prevalent in many parts of the country, respecting the utility of cow-pox. Some parents objected to vaccination, because it was giving the disease of an animal to their children; others, because it was flying in the face of Providence,to employ such means to prevent the spreading of a natural complaint; whilst some disliked novelty, and preferred inoculation. He (Dr. Webster) must again repeat, notwithstanding vaccination was not invariably a preventive of variola, it nevertheless had conferred immense benefits upon the community, and should be constantly employed; of course, taking due care that genuine cow-pox was always communicated. To prove how much good this modern discovery had accomplished, it was only necessary to look at the large assemblage of smooth faces now in that room; where not a single individual marked by small-pox could be seen. (A laugh.) Again, when walking in the crowded streets of London, it was equally rare to meet instances of the kind, thus showing a very different state of matters to that formerly prevalent.

Dr. **Gregory**, in reference to Dr. Basham's remark respecting the indications afforded by the appearance of the cicatrix as to the perfect or imperfect performance of vaccination, said that he thought it had been long ago conclusively settled that no conclusion whatever could be drawn, with respect to this point, from the appearance of the cicatrix. If a good cicatrix were found, then you might be satisfied that the vaccination had been perfectly performed; but if the cicatrix were imperfect, you had no right to assume that the patient had not been well vaccinated; for in these cases the process of reparation might have been quick; there might have been little inflammation, or there might be other causes to account for the imperfect cicatrix. He had long ago published cases on this point. Dr. Snow had asked him on what evidence he had arrived at the conclusion that vaccination afforded nearly complete protection from small-pox up to the period of puberty? and had inferred that he had dérived his evidence mainly from the small-pox hospital; but this was not the fact. He had drawn his conclusions from extensive observations, and from correspondence with persons all over the kingdom. He had never seen modified small-pox in the young, either in private or public practice; neither had he read of it in books, or heard of its occurrence abroad. It was only to be found occurring in the adult. Dr. Webster had expressed his hope that the facts and statements advanced would not shake the confidence of the public in vaccination. He (Dr. Gregory) hoped so, too. Even if vaccination prevented small-pox in only one half the cases in which it was performed, it was a great protection; and as it was shown by statistics that about half the population died before the age of fifteen, it afforded to that half, at least, perfect and complete protection.

Mr. **Arnott** inquired of Dr. Gregory what was the relative mortality from cases of small-pox without, and after, vaccination?

Dr. **Gregory** replied, that from the year 1844 to

1850, 2854 cases of small-pox had been admitted into the hospital: of these, 1500 were after vaccination. The deaths among the entire number had been 579: of these, only 75 were amongst the vaccinated portion. It was a simple matter of calculation to determine the relative mortality.

Dr. ADDISON inquired of Dr. Gregory what his impression was respecting the identity of small-pox and chicken-pox?

Dr. MARSHALL HALL rose and said that he was just about to ask Dr. Gregory the same question—viz., his opinion of Dr. Thomson's view of the identity of vaccinia and the modified small-pox? There was another question which he begged to ask Dr. Gregory. It sometimes happened that a child resisted vaccination. Was it then liable to take the small-pox? His own son had been vaccinated fourteen times unavailingly—once by his friend Mr. Barlow, who sat near him. No vaccine vesicle ever formed. His son was sent to Eton, at thirteen years of age; and on coming home, on July the 29th, 1844, for the holidays, went to Brighton. There, on August the 12th, he was observed to be covered with an eruption. Some of the spots at once exhibited the form of distended vesicles, of moderate size, observed in *chicken-pox*. Others of the spots went through the regular course of *horn-pock*, occupying five or six days. One or two on the face left distinct *pits*, the result of sloughing, as seen in the *small-pox*. Dr. Hall added, that such a case seemed to demonstrate the insecurity of the patient, when vaccination had failed several times, and to confirm the opinion of Dr. Thomson, that varicella and modified small-pox were the same disease, for in it they had occurred simultaneously. Some children seemed to possess peculiarities in regard to their susceptibility to the eruptive diseases. The same boy, on returning to Eton, took the scarlatina. There was, however, no rash on the skin; but the sore-throat and the enlarged papillæ of the tongue were so distinctly scarlatinous, that he (Dr. Hall) had had a drawing made, which he still preserved, as admirably representing this form of eruption.

Dr. GREGORY, in answer to the question respecting the identity of small-pox and chicken-pox, replied, that the diseases, though bearing some relation to each other, were undoubtedly different and distinct in their nature. In proof of this it had been demonstrated that genuine vaccination had been received before and after the occurrence of chicken-pox. The occurrence of the latter previously made no difference to the development of the former. In addition to this, the two diseases might go on together in the same person. Now, in reference to small-pox, we never saw these modifications. With respect to the case mentioned by Dr. Hall, he had no hesitation in saying that the variolous miasma had done its worst; and though, like the patients mentioned in the paper of Dr. Webster, Dr. Hall's son might have the ill luck to contract secondary small-pox, the great probability was that he would not.

Dr. A. P. STEWART said his object in bringing his paper before the Society was to show the influence of vaccination on a case of modified confluent small-pox, in opposition to the case of Dr. Webster, in which death from small-pox had followed vaccination. He had an additional object, however, in his paper, and that was, to draw attention to the remarkable epidemic which had occurred in Devonshire, to mention the strong prejudice which existed in that locality against vaccination, and the bad effects which had resulted from inoculation for variola—a practice which could only be justified by knowing that it afforded a real, effective, and permanent protection from a second attack of small-pox. Dr. Mayo had appealed to the experience of Dr. Thomson on this point, and the results in Devonshire fully bore out that experience; for in that locality the persons inoculated were affected by secondary small-pox in a larger ratio than those who were vaccinated. There was no question that a larger number of these persons were inoculated, and the statistics showed that they were not protected from a second attack of the disease. He regarded the occurrence of 1500 cases of small-pox after vaccination, as a very small number indeed, out of a population of two or three millions, and that fact alone showed the great protective power of vaccination. But it was not in hospitals that the protective power was to be seen in its full force: in those institutions the more striking illustrations were not witnessed; but in the poor districts, where day after day the small-pox patients were crowded in confined, close, and unventilated rooms, the medical man in attendance had every opportunity of seeing the vaccinated mixing with the infected persons, and remaining free from the influence of the contagion. No stronger proofs than these of the protective power of vaccination could possibly be adduced. (Hear! hear!)

TUESDAY, MARCH 25.

SEVEN new fellows were elected.

The President having made some preliminary observations, an abstract of a paper, by Dr. OGIER WARD,

ON THE COMPRESSION OF THE FŒTAL HEAD DURING BIRTH,

and its immediate, consecutive, and remote effects, was read, of which the following were the main propositions:—That under all circumstances, almost without exception, the head of the child undergoes a change of shape during birth, from which it recovers in the great majority of instances immediately, from the elasticity of the bones, or from the effects of the first cries in producing determination of blood to the head; that in some cases the head retains its compressed shape for an indefinite period, during which time the child is apt to suffer from attacks of flatulence, convulsions, paralysis, and other cerebral affections; that there is reason to believe, from the observations of the author, that idiotcy and insanity may also be produced by this deformity of the skull, and consequent compression of the brain, when it is not removed during childhood;[*] that the most efficacious mode of relieving the brain from this pressure is to excite the cry of the child after birth, and thus, by causing distention of the cerebral vessels, to produce expansion of the cranial bones. Thirteen cases were adduced in support of these propositions, of which four were instances of convulsions, one of symptoms of insanity, one of paralysis, that ceased when the head regained its form—and all suffered more than ordinary from flatulence. In two of the four cases of convulsions, the fits came on several weeks after birth and were followed immediately by the restoration of the head to its normal shape. Some sketches were exhibited, illustrative of the various kinds of deformity described in the paper.

Dr. HEALE, in relation to the great tendency to flatulence which existed in connexion with the congestion of the brain in some cases, threw out the suggestion, that as the respiratory function was then interfered with, there was an effort of Nature to throw off carbonic acid from the coats of the stomach, to make up for the quantity thrown off from the lungs under the more natural circumstances of respiration.

Dr. WEBSTER could bear testimony to the fact of M. Foville attributing much influence to the compression of the Norman cap in the production of mania. In Rouen, insanity was very common, and in some of the cases the head was found to be so indented by the pressure of the band in the cap alluded to, that two fingers could be placed in it. Dr. Webster inquired whether the compression exerted on the head of the Carib had a tendency to produce mental disease.

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[*] The author refers to the writings of Dr. Copland and M. Foville in support of this hypothesis.

Mr. **Arnott** said that one of the advantages of the Society consisted in the fact, that whatever was the subject of the paper, the opinions of the members present could be had respecting it. He would beg to ask of the accoucheurs present whether they agreed with the author of the paper? Did they believe that the long detention of the head of the child in the pelvis produced the deformity and other effects enumerated by the author? Had they seen such cases? Seeing Dr. Lee present, he would request him to favour the Society with his opinion on these points.

Dr. **Copland**, after waiting a short time, and finding that no one addressed the meeting, said that the subject of Dr. O. Ward's paper had engaged his attention many years since, and had been alluded to by him in one of the earlier numbers of his "Dictionary," nearly twenty years ago. Since then he had seen several interesting cases, but one was especially so, the head being diamond-shaped on the top; the deformity might also consist in one side of the head being larger than the other. In the case alluded to, the head was diamond-shaped from malformation, and not from pressure consequent upon delivery, as the mother had been delivered of four or five children previously. This child was subject to convulsions. The diamond-shaped head met with sometimes after puberty was generally associated with epilepsy. In some cases in which one side of the head was higher than the other, there was usually paralysis on the opposite side, and he had inferred from this that there was insufficient development of the brain on that side. These kinds of malformation were of great importance, and he was astonished that no one had more fully described them than had been done.

Mr. **Cæsar Hawkins** would put one more question to Dr. Lee respecting these cases: was not the pressure more likely to have been exerted in these cases in the uterus itself than in the process of delivery? He had seen two cases bearing on the point: in one of these, one side of the head was higher than the other; in the second case, one side was more forward than the other; the face in these cases was implicated in the deformity: in one instance the eye on one side was higher, in the other more backward, than it should be. In these instances, one of the patients was ten, the other twelve months old. There were no convulsions or other bad results. In both instances the head assumed its proper shape and size, the eyes their proper position, and all was well.

Dr. **Lee** said that he was very sorry that any appeal had been made to him, as he had come that evening determined not to open his lips, but to listen to others. He had of late intruded himself so often on the notice of the Society, and trespassed so much upon their time and patience, that he considered it right for a season to preserve silence. As he had, however, now been urged to express his opinion, he would do so in a few words. His impression was, that no variety of malformation in the human fœtus could be referred to pressure during labour. In many cases of protracted labour, he had seen the fœtal head squeezed into every possible shape, and great swellings from extravasation of blood under the scalp formed, and he had often felt astonished at the rapidity with which these effects disappeared—in a few days the extravasated blood was absorbed, the head resumed its natural appearance, and the functions of the brain were performed as if the head had suffered no pressure during labour. But the brain sometimes did suffer from pressure, and he believed this was the case in most children where the respiration could not be made to go on by any means after tedious labour. He had no doubt that the pressure necessarily applied when delivery was completed with the forceps often produced death, and when death was not the immediate result, that inflammation of the brain and convulsions sometimes took place at remote periods. He (Dr. Lee) did not think that malformations could be referred to this cause, that they arose at an early period, long before labour commenced. In examining fœtuses born prematurely, he had repeatedly seen in them some malformation,—the brain or spinal cord wanting, the intestinal canal and the heart malformed, club-feet, and deficiencies of different organs,—and he was disposed to attribute these to some less obvious cause than pressure; in fact, that the malformation caused the premature expulsion of the fœtus.

The **President** inquired of Dr. Lee whether pressure before labour came on could not cause the malformation described in the paper?

Dr. **Lee** replied that the fœtus, in being surrounded on all sides by the uterus, and floating in the liquor amnii, could not possibly be injuriously pressed upon in any way. He considered it physiologically impossible.

Dr. **Ogier Ward**, in his reply, stated that, having had his attention turned to the subject only within the last seven years, he had not been able, in more than one instance, to trace the effect of the deformity of the skull in the infant producing insanity at a later period: he only threw this out as a suggestion, though it was supported by the authority of Dr. Copland and the statistics of M. Foville, who found that one-half of the male, and two-thirds of the female, insane patients under his care had deformed heads, from the use of a peculiar head-dress during childhood; and he thought a compression of the brain, continued from birth, might at least have an equal effect in producing mental disease. He thought that if, as Dr. Lee and Mr. Hawkins supposed, the deformities were ante- and not congenital, recovery would not have taken place at all, or at least within a few months after birth; and it was not consistent with such a notion that one form—the diamond-shaped skull—should be confined to the right side of the head, though it was easily explained by the fact that the left side of the head is fixed, during birth, against the sacrum, while the right side is in a degree moved round it.

Statement of a Case of Chylo-serous Urine. By J. Pearce, M.D., H.E.I.C.S., Bangalore. With an Analysis of the Urine, by J. E. Mayer, Esq., Madras Medical Service.

An English woman, born in India, twenty-two years of age, the mother of three healthy children, had been nursing the youngest for ten months, when first seen by the author, in March, 1850. For the last five months the urine had been pale and milky, sometimes forming a jelly on cooling; quantity rather large. The same state of urine had been observed after her other confinements, and had ceased after weaning. On this occasion she was advised to wean the child when she first applied for advice—viz., five months after her confinement. She declined, however, and was put on a course of tonics, with generous diet. This plan was continued for about two months, having been interrupted for a few days by a feverish attack. At the end of this time, no improvement having taken place, the patient removed to Bangalore, and then came under the observation of the author. The quantity of the urine was at this time moderate; it was milky, formed a jelly when cool, and coagulated on the addition of nitric acid. The child was now weaned, the tonic plan of treatment continued, and in about three months the patient returned to her family, considering herself well. The urine was less milky, did not coagulate on the addition of nitric acid, but still forms a jelly when allowed to stand for some time without being agitated. The analysis, by Mr. Mayer, showed that no casein, pus, or phospates, were present, but that it contained albumen and an excess of fat, from which he infers, that it is to "the presence of animal fat and albumen" that the milky appearance of the urine is attributable.

Dr. Black referred to a case of mollities ossium, brought before the Society last year by Dr. M'Intyre, in which he believed a similar condition of the urine prevailed as in the case just read.

Dr. Jones said that in Dr. M'Intyre's case the urine was not at all similar to that which was found in the present case. An albuminous substance was found in the urine, but not, as in this instance, accompanied by a quantity of white matter. The great interest of the case consisted in its being the best relation of a genuine case of chylous-urine which we had: the experiments to show in what manner a feigned case of the disease might be detected were most interesting and important.

Dr. J. A. Wilson related at some length the case of a young woman, who, eight or ten years since, was admitted into St. George's Hospital with general anasarca. She was apparently healthy. It was found that she passed a large quantity of chylous urine. All the usual diuretics had been given without any effect on the disease, and he thought it would be far better to leave the kidneys entirely alone. This was done, and copious perspiration was induced by means of the hot-air bath. After taking fifteen or twenty of these, followed by some mild tonic, the patient got quite well.

Dr. Seth Thompspn said it was a common practice to treat disease of the kidney in the manner described.

MEDICAL SOCIETY OF LONDON.

Saturday, March 1, 1851.—Dr. J. R. Bennett, President.

Dr. Henry Bennet presented to the Society several pathological specimens of uterine disease, and a wax preparation illustrating inflammatory ulceration of the cervix uteri. The latter had been taken from a cast, and coloured from life by Mr. Tuson, the able modeller to University College. It illustrated, in a very admirable manner, the disease which he had described in his writings as ulceration of the cervix uteri,—a morbid state to which some persons had lately attempted to apply the nondescript term of granular inflammation. It would be perceived that the wax model presented the characteristics which classical writers had ascribed to ulceration—"a granulating surface secreting matter," (Sir Astley Cooper,)—"a solution of continuity in a soft part of the body, attended with a secretion of pus, or some kind of discharge," (Samuel Cooper.) There was no appearance of loss of substance, it was true; but on examining one of the macerated uteri which he had just laid before the Society, it would be seen that the cervix, which had been ulcerated during life, presented very evident destruction of substance, the mucous membrane having been destroyed so as to reveal the lamellated structure of the submucous tissues. The other uterus was a very interesting illustration of corroding ulcer, kindly forwarded to Dr. Bennet, by Mr. Highmore, of Bradford, Wilts. This disease was one of a rather mysterious character, the intimate structural nature of which had not yet, he believed, been satisfactorily made out. Mr. Highmore had given him the following details:—The patient, aged forty-eight, at her death, was the mother of eleven children, the youngest of whom was born when she was forty-three. In 1847 she became subject to uterine hæmorrhage and leucorrhœa, which confined her for months to her bed. In 1848 she went into the Bristol Infirmary, where the vagina was repeatedly plugged to arrest hæmorrhage, but no examination was made. Mr. Highmore saw her, and examined her with the speculum in May, 1849. He detected a diseased condition of the cervix uteri, which presented a fungous granular mass, about the size of a walnut, projecting from the os uteri. This disease resisted cauterization, and progressed, despite all means of treatment, local and general, until the patient sank from exhaustion in November, 1850. On examination of the uterus now before the Society it will be found that not only the cervix uteri, but a considerable portion of the body of the uterus, has been destroyed, without any apparent deposit of new matter, or thickening or induration of what remains. The healthy uterine tissue ends abruptly in a jagged surface, as if it had been eaten away. The rectum and bladder are both extensively ulcerated, so that the three cavities communicate freely, forming a kind of cloaca. Dr. Bennet had submitted the uterus to Dr. Quain, in order to have his opinion respecting the microscopical anatomy of the diseased tissues, and had received from him the following important memorandum:—"On examining portions of the soft jagged substance taken from different parts of the ulcerated edges of the body of the uterus, I find the appearance in all pretty nearly the same—that is to say, this substance consists of—1st, a loose, fine filamentous, or cellular tissue; 2nd, particles of fatty matter, in some portions very abundant, and both free and imbedded in the tissue; 3rd, crystals of the earthy phosphate in the form of prisms, stars, or leaves; some free, others enclosed in the surrounding substance; 4th, a few small cells, containing granules, free granules, and broken-down fibres. I do not observe any trace whatever of cells, fibres, or other matters which could connect the morbid process with cancerous disease; nor, on the other hand, is there any appearance of plastic, or other substances, by which the disintegrating process could be restricted or repaired. On comparing this substance from the surface of the ulcer with the deeper and healthier tissue of the womb, I am led to infer that the difference found in the two depends on a process of decay or disintegration, taking place slowly, without any capability of the surrounding parts to restrict the process, or to restrain its effects. On what this want of power depends, or what may have been the primary exciting cause of the disease, are subjects of interesting inquiry." In this latter remark of Dr. Quain, Dr. H. Bennet fully agreed, and he thought the results of the microscopical examination of this case of corroding ulcer of the uterus would be listened to with interest, as he was not aware that this most valuable mode of investigating the intimate structural nature of disease in the animal tissues had been applied to the disease in question. Professor Bennet, of Edinburgh, classed it among the epithelial cancroid growths, but did not appear to have examined it. The crystals might be owing to the urine, as had just been suggested to him. It would be observed that mention was made of filaments of cellular tissue evident at the ulcerated edge of the uterus. Their presence proved that disease developed cellular tissue in the morbid uterus, so as to render it recognisable; but not that it existed in a demonstrable form in the unimpregnated uterus, although such might be the case. It was for histologists to decide this point. M. Jobert de Lamballe, whom Dr. Bennet had quoted in his work on Uterine Inflammation, had not found it; but he believed that M. Jobert did not use the microscope. The question to examine, therefore, was, whether cellular tissue existed in a demonstrable form in the unimpregnated *healthy* uterus, or merely in an elementary, non-recognisable state?

Dr. TILT read a paper

ON DIARRHŒA AS A HITHERTO UNNOTICED SYMPTOM OF MENSTRUATION, AND ON THE USE OF PURGATIVES AT THE DIFFERENT EPOCHS OF THE MENSTRUAL FUNCTION.

Dr. Tilt premised, that not having found any description of catamenial diarrhœa as a symptom of menstruation, in the classic work of Friend and Brierre de Boismont, he concluded that it was not generally known to the profession, except as a morbid complication of the function. He then proceeded to inquire into the nature of that catamenial diarrhœa whether it occurs—

1. At the prodroma of menstruation.
2. During its regular establishment.
3. At its cessation.

1. As a symptom of the prodroma of menstruation, diarrhœa scarcely ever occurs. It was noticed but once in 161 cases.

2. As a symptom of regularly-established menstruation, it occurred in 88 instances out of the 161 who were carefully interrogated relative to this point. It did not occur in 72 cases; and in those in which it did occur, it preceded the menstrual flow in 45 cases, it accompanied it in 31, it both preceded and accompanied it in 10, and in two instances it neither preceded nor accompanied, but habitually followed, the menstrual flow, for two days; and where there was precursory diarrhœa, the bowels were afterwards in general *costive* until the cessation of the catamenia.

3. As a symptom of menstruation at its cessation, diarrhœa occurs much less frequently than is generally supposed, for it was found only in eight per cent. of such cases. With respect to the nature of the diarrhœa, it is generally unattended by pain, but sometimes nausea and slight colics precede it for two or three days. In one patient, Dr. Tilt found these symptoms continue for eight days previous to the appearance of diarrhœa. When it occurs at the change of life, it generally appears at irregular intervals, though it may adopt the regularity of the menstrual function. As a general rule, however, Dr. Tilt is of opinion, that when diarrhœa has habitually accompanied menstruation, there is, at the change of life, a gradual diminution of both discharges, the cessation of one marking the termination of the other.

From the preceding facts, Dr. Tilt deduced the physiological inference, that, for the performance of the function of menstruation, the ovaries not only determine the menstrual secretion from the womb, but also often call into consentaneous action most of the organs, which being subsidiary to nutrition, are animated by the same ganglionic nervous system, and particularly the intestines, with which they are placed in such close juxtaposition. He then laid down the rules which he considered to be those which should be adopted in the administration of purgatives.

1. During the prodroma.
2. During the regular establishment.
3. At the cessation of menstruation.

1. Use of purgatives during the prodroma of this function.

Dr. Tilt is of opinion that purgatives should not be given at this period, because they were neither sanctioned by experience, nor confirmed by his inquiries.

2. Use of purgatives during fully-established menstruation.

As Nature herself has often prefaced the menstrual crisis by a premonitory diarrhœa, so experience teaches that purgatives may be advantageously employed when defective menstruation does not depend on any serious organic lesion. The great point, Dr. Tilt said, in the administration of purgatives, is not to interfere with the menstrual type; for if this may be done with impunity, in a very small class of women, it cannot be so in the majority. Brisk purgatives, given a few days before the symptoms which precede menstruation, often anticipate it by a few days, and thus vex Nature in one of her most constant laws, often producing permanent disorders of that function. An inquiry into how many days before the menstrual flow the premonitory diarrhœa used to appear, or, if the patient has not that symptom, the date of appearance of other menstrual symptoms, will be a sure guide as to the fit time for giving purgatives.

Dr. Tilt next touched on the value of purgatives in amenorrhœa and in chlorosis, relating that a friend of Morgagni never gave anything, in such cases, but small doses of aloes; and that Dr. Hamilton of Edinburgh depended exclusively on purgatives for the cure of chlorosis. Dr. Tilt, however, thought it best not to confide in purgatives alone, but to let them form the initial part of the treatment, as, in Nature, diarrhœa often forms the initial part of menstruation; and therefore to begin with a decided shock on the system of nutrition by an emeto-cathartic, followed by steel and bitters; but if he finds that the appetite does not improve, and that the bowels remain sluggish, he puts aside the steel and bitters, and seeks to break in on a perverse concentration of forces by giving another emeto-cathartic.

At the period so appositely called by women the dodging time, it is injudicious to give purgatives just before the menstrual epoch; for, says Dr. Tilt, they might increase the flow Nature seeks to diminish; therefore it is more prudent to prescribe the frequent use of the milder opening medicines, so as to diminish, by degrees, the plethora of the abdominal viscera.

3. Use of purgatives after the cessation of menstruation.

At this period of life purgatives must be given habitually, for the intention is, not to re-establish periodical discharge, but to diminish plethora, and the necessity for that plethora seeking for any other less manageable seat. As regards what purgative should be given, it is as well, in general, to prescribe the medicine best tolerated by the patient. The soap-and-aloes pill of the Pharmacopœia, ordering five or ten grains to be taken at dinner, Dr. Tilt frequently recommends. He has never seen hæmorrhoidal affections *caused* by this frequent use of aloes, but often *relieved* by it; and his experience on this point he has found confirmed by that of Avicenna, Stahl, Giacomini, and Cullen. The flour of sulphur alone, or else to each drachm of it a drachm of sesquicarbonate or biborate of soda, and sometimes from five to ten grains of ipecacuanha may be given, in quantities of from one to three scruples of these powders, to be taken once a day, in milk, so as to act mildly on the bowels, which is one of the chief things required at the cessation of menstruation.

Several fellows took part in the discussion on Dr. Tilt's paper. Reference was made to a paper by Dr. Butler Lane, to show that the views advanced by Dr. Tilt had been somewhat anticipated by that gentleman. However it was admitted that he had rendered a service to science, by the facts which he had advanced in his paper. The debate referred chiefly to two points—the physiological and the pathological ones, to which the paper referred. Various opinions were expressed as to the mode in which diarrhœa might be supposed to act in retarding, interfering with, or promoting, the menstrual discharge. Some difference of opinion existed as to the indications presented for treatment. In his reply, Dr. Tilt stated that he had not seen the essay.

Mr. T. Wakley exhibited a patient, at present an inmate of the Royal Free Hospital, who was the subject of monstrous or malformed genito-urinary organs. Mr. W., in his introductory remarks, previous to showing the case, said—he had the honor that evening to present to the notice of the Society one of those distresing cases of malformation of the genito-urinary organs, arising from arrest of development during uterine gestation—the most distressing class of deformity to which the human body was subject, distressing alike to the patient and to those relatives and friends who from social ties must be constantly brought into communion with him. The case had been sent to the hospital by Mr. Eaton, surgeon, of Grantham, Lincolnshire, asking whether surgical assistance might not afford the poor fellow some relief? Mr. Wakley had carefully and repeatedly examined the parts, and upon mature deliberation, considered that surgical interference was justifiable, and it was with a view to elicit an opinion upon the subject from the fellows then present, as well as to show them a case of so novel and distressing a nature, that he brought the patient there that evening. Mr. Wakley had heard that a malformed bladder had been operated upon successfully by a surgeon of Berlin, but the malformation in that case, as far as he could learn, was of a very different character; the arrest of development occurring in the mesial line just over the pubes, the surgeon merely having to bring the lips of the fissure together, a course simple enough; but in the case which would be shown to the Society that evening, a different state of parts existed. There was no cavity to enclose. Mr. W. had made every inquiry respecting the Berlin case, but could not arrive at any satisfactory information; however, he believed it to be as he had stated; and that surgeons had not yet attempted any surgical alleviation in such cases. Many surgeons had written on the subject, descriptive of cases of the kind which they had met with in their practice, and foremost in the list he would mention the late Mr. Earle, who, as shown in a clever pamphlet on the subject, by Mr. M‘Whinnie, had devoted considerable attention to this class of malformations, with a view to their mechanical relief. Writers had not even discussed the merits of operative procedure in these cases, but it must be remembered that reparative surgery had been of late years making rapid strides, and was so successful in its results that surgeons were certainly authorized to pause, even in so bad a case as the present, before they dismissed the patient to the comparatively small amount of assistance which he received from instrumental means.

The man was then introduced to the Society; he appeared to be about twenty-five years of age, a healthy, ruddy-looking fellow. Mr. Robertson, resident-surgeon, removed the instruments which covered the parts.

Mr. Wakley, in continuation, said—The Society would observe that no umbilicus existed, the abdominal muscles were separated at their lower part, through which appeared the posterior wall of the bladder with its muscular and mucous coatings, presenting a highly vascular tumour very painful to the touch, and bleeding easily. The mouths of the ureters could be distinctly seen, and the urine was constantly dribbling from them, and flowed over the rudimentary penis, producing very severe excoriation of the parts. The rudimentary sexual organ was about one inch in length, and closely applied to the inferior part of the tumour, which, when depressed, displayed complete epispadias, the urethra being merely a groove. The opening of the seminal ducts could be seen at the root of this rudimentary penis; upon each side is a prominence corresponding with the partially descended testes. The parts were partially covered with hair; indeed, every symptom of manhood existed to the discomfort of the patient, sexual desire being as strong as if the parts were in a healthy state. Mr. Wakley read quotations from Mr. M‘Whinnie's pamphlet, in which was described a dissection of a malformation of the genito-urinary organs which very nearly corresponded with that of the man then before the Society. Mr. W. thought that that dissection strongly favoured the probability of the success of an operation. In the case exhibited, as far as it was possible to judge from external examination, the pubic symphysis was complete. The majority of writers had stated that in these malformations the pubic bones were widely separated, and indeed only connected by ligamentous bands. This would no doubt render an operation still more troublesome in the man P——. He certainly considered the pubic bones to be in apposition, and firmly united. The operation which Mr. Wakley proposed to perform was by transplanting from the neighbouring integument of the abdomen a natural covering, to protect the painful and highly vascular urinary tumour; and this he would attempt to accomplish in the following manner:—Two flaps of skin to be dissected up from the integument in immediate contact with the lateral edges of the tumour, leaving a broad root still attached to the skin immediately over the tumour. These portions of skin should then be twisted over an expanding silver shield, modelled so as to cover the tumour without pressing upon it. This instrument would be useful, first, in preventing adhesions between the posterior wall of the bladder and the transplanted skin; secondly, in protecting the latter from contact with the poisonous urine; thirdly, in allowing the lateral edges of skin to be brought together by sutures over the plate. Of course every attempt should be made to favour union, both in the middle line, and also at the lateral edges of the tumour, from above downwards; and as union thus progressed, the silver shield would be lowered and diminished in size, until only an opening should be left for the passage of the urine at the root of the newly-formed bladder; incontinence of urine would then be the only discomfort to the patient. Mr. W. said the operation would of course be performed by degrees, and many difficulties must be encountered. The enemy to the successful issue of the operation would be the urine; but he thought the silver shield would combat that evil. On Monday the man would proceed home, and make arrangements for his return to the hospital, as he was most anxious an operation should be attempted. Mr. Wakley, in conclusion, called attention to the apparatus which had been constructed to catch the dribbling urine, and protect the parts from injury. The instrument was a modification of that invented by the late Mr. Earle, the difference being, instead of an oval plate, held in its place by hernial springs, a zinc plate, accurately fitted to the man's body around the malformed parts, especially in the perinæal portion, thus requiring only a broad waistband to retain it in its place. A galvanized India-rubber tube passes from the most dependent part of the zinc plate to the ankle, according to Mr. M‘Whinnie's method. For the manufacture of the apparatus, the cast on the table had been made, the zinc plate being worked on the cast. Mr. Wakley trusted that he should at some future day, not very far distant, again introduce the patient to the notice of the Society, when the result of the operation would be seen, whether successful or otherwise.

THE NEW SUPERPHOSPHATE OF IRON.

Dr. Routh stated, in reference to the new preparation of iron he brought before the Society on a former occasion, that it had been analyzed and found to be a new salt—a superphosphate of iron dissolved in an excess of phosphoric acid. It was quite free from any ferruginous flavour, and was indeed exceedingly pleasant to take, so that it was very well adapted for children. As he had said before, he believed it to be more speedy in its operation than many other preparations of iron. It had now been prepared in the form of a syrup by Mr. Greenish, of 20 New-street, Dorset-square, which is much cheaper than that of the iodide of zinc. He could strongly recommend it to the profession.

SPONTANEOUS COLLAPSE OF THE WALLS OF THE ANTRUM.

A paper by Mr. **WHITE COOPER** was read, (and illustrated by a portrait and cast,) of a case of collapse of the walls of the antrum. The patient was a respectable young Irish woman, of healthy constitution and strong frame, who, nine years ago, perceived a dusky mark beneath the left eye; after a time this extended down by the side of the nose, and was followed by a sinking of the cheek in that situation; there was, however, neither pain nor uneasiness. After this had existed nearly seven years, gradually increasing in extent, she applied to Mr. Cooper on account of the tear flowing over the cheek. Palliative measures were adopted, and this unpleasant symptom speedily subsided. This was early in 1849, and since that time the sinking of the anterior wall of the antrum has steadily continued to increase, and has now given rise to considerable deformity, the appearance closely resembling that which would have arisen had a large portion of the superior maxillary bone been removed, and the integument sunk. The teeth on the affected side were in a most unhealthy state, and two were removed in 1849, by Mr. Alfred Canton, in the hope that the morbid action might be arrested; but such has not been the case. Mr. Cooper has not been able to find a similar case related in any work.

After the reading of the case, various opinions in respect to its nature were offered. There was no syphilitic taint, and no external injury. It was conjectured that the deformity might be natural, that it was not very uncommon for the left side of the face to be smaller than the right; that it might have arisen from mollities ossium; that the antrum might have fallen in, from the contraction consequent upon the spontaneous cure of a disease in that cavity, by which the anterior wall was dragged inwards; that it might have arisen from falling in of the anterior wall from obstruction of the opening from the antrum into the nasal duct, and consequent atmospheric pressure. None of these solutions, however, were regarded by the author as conclusive or satisfactory.

SUPPURATION OF THE HIP-JOINT.

Dr. **ROGERS** briefly described a case of acute inflammation of the right hip-joint, in a strumous, emaciated child, which rapidly terminated fatally. The examination of the hip-joint showed that it was full of laudable matter, and that no other disease existed.

CARIES OF THE PETROUS PORTION OF THE TEMPORAL BONE.

Mr. **WILLING**, of Hampstead, detailed at some length the case of a child, eleven months old, in whom there occurred caries of the petrous portion of the right temporal, implicating the spinous process of the sphenoid, and part of the basilar portion of the occipital, with complete disorganization of the vessels and nerves passing through their foramina. In addition to the signs of general ill health, the child had long been subject to a discharge from the right ear, and some months before death the left side of the face was palsied, the loss of power being more evident a week prior to decease. Pain was evidently felt on pressure on the mastoid. All these symptoms increased, the discharge became profuse, bloody, and very offensive, the pain on pressure more severe, and the parts yielded to the touch. The child was sensible to within twelve hours of her decease, but died convulsed. The post-mortem appearances were those of congestion and effusion into the brain, a small abscess at the posterior part of the right middle lobe, while the bones were as above described.

SATURDAY, MARCH 15.

The new President on taking the chair was much cheered. The usual routine business of passing votes of thanks to the various officers, &c., having been gone through, Dr. Murphy made an inaugural address. We regret that our space prevents our reprinting it in full. It took an elaborate and able view of the value and uses of medical societies, and was altogether an interesting production.

THE MAMMILLATED CONDITION OF THE LEGS IN CERTAIN CASES OF DROPSY.

Mr. **NUNN** read a paper "On a Change which takes place in the Skin of the Legs of Persons affected with Certain Forms of Dropsy." In certain cases of dropsy, and especially in those dependent upon chronic heart-disease, towards the closing stage of that malady, when the legs have become infiltrated with fluid, and when the distention of the skin has arrived at a pitch which seems to threaten its vitality, it will be found that the cuticle gradually cracks, and that an exudation of serum takes place. The skin does not retain the waxy whiteness characteristic of anasarca, but changes to a reddish hue, or the cuticle separates from the true skin, and serum is poured forth more or less freely. The surface next becomes uneven, and, in the course of time, within a few weeks, the whole leg, from the ankle to the knee, is studded with elevations, varying from the size of a pin's head to that of a pea, which in some parts are grouped together, so as to cause larger protuberances. They are moist and shining; around their bases is a whitish pasty secretion, and serum oozes from their surface. A brownish-green staining encircles the limb above the tuberculated part in some cases. This state is a result of anasarca, widely different from the ulceration following the formation of bullæ, or the large open sores produced by the separation of sloughs. It is a change, however, not of frequent occurrence, and has been mistaken for elephantiasis. It is attended with a great deal of pain and smarting. When the tuberculization of the skin is fully established, a profuse discharge of serum takes place, saturating the bandages. The fluid secreted has a peculiar, faint, sickly odour. It amounts to many ounces in the twenty-four hours. In proportion to the extent of the tuberculization and the amount of the discharge is the relief experienced from the oppression of the vital functions, particularly of the respiration. The beneficial change is most striking; the fluttering pulse, the furred tongue, dry hot skin, parched lips, leaden countenance, and the laboured respiratory movements, disappear; the size of the body diminishes, the brain again becomes active, the aspect brightens, and the most sanguine hopes of ultimate recovery spring into existence. When from any cause the discharge of the fluid is suppressed, even for a few hours only, it is followed by cerebral disturbance and congestion, and by uneasiness about the cardiac region. From this Mr. Nunn infers that the actual disease causing dropsy is not sufficient to induce death, but that the secondary effects of the effusion upon the vital functions is the more direful of the two agents, and therefore, that if the fluid can find an exit, the patient may exist in greater or less comparative security. But, unfortunately, this effort of nature has a tendency not to be permanent. In the course of time the mammillations shrink, the exudation becomes scanty, and at last entirely ceases, the leg being covered with a dryish scurf. In one instance, the patient survived this last change for more than a year. The preceding statements were illustrated by the detail of several cases which fell under Mr. Nunn's observation, or to which he was called by professional friends, and he then commented on the mechanism of the phenomena, first considering the nature of the discharge, and secondly that of the structural change which takes place in the skin itself. The fluid does not differ from ordinary dropsical fluid; it consists of water and albumen, with a certain proportion of the salts of the blood. No traces of urea could be found in it. Only one specimen, however, had been analyzed, and Mr. Nunn, therefore, would be cautious in coming to a conclusion respecting its nature, as it is a point involving the important question of vicarious secretions. Mr. Simon's opinion is, that one organ can vicariously secrete for another only such materials as are common to both; if this be correct, then the presence of urea in the discharge cannot be expected. The relief afforded by the free discharge, Mr. Nunn, therefore, is inclined to attribute to the liberation of the parenchymatous organs from their load of serum, and to their being thus enabled to perform their allotted functions. To illustrate the saturation of these organs, he mentioned, that a kidney belonging to a person deceased from cardiac dropsy, was of double its usual weight—namely, eight ounces. With respect to the second question, Mr. Nunn was of opinion that the mammillations and tubercles were hypertrophied papillæ of the skin; and he further thought it possible that some noxious matters might be eliminated from the system with the serum. The next question to be considered was, how to favour the development of these secretory mammillæ, and to keep them in a sufficiently active condition. The first, he thought, would be effected by remedies which would soften the epidermis, and stimulate the circulation of the skin, without causing mischief, and both these objects he believed would be obtained by warm fomentations. The ordinary dressing should be a soft linen rag, slightly smeared with ung. cetacei.

After the reading of Mr. Nunn's paper, some discussion followed in which several fellows took part.

Mr. **Thomas Wakley** exhibited the man William B——, upon whom, upwards of three years since, he performed the operation of excision of the ankle-joint, including the entire removal of the os calcis and astragalus. The preliminary business at the commencement of the new session, and the very excellent address of the President, engaged the attention of the Society until so late an hour, that Mr. Wakley only called the attention of the surgeons present to the very interesting case before them. He said that as the gentleman who had announced a paper for April 5th was unable to fulfil that engagement, he gladly availed himself of the opportunity afforded him then to read a paper "On Excision of the Ankle-Joint," when the case before them should be fully discussed. He reminded the Society that he should not be able to produce the man on that evening, consequently he trusted the fellows would, on the present occasion, satisfy themselves respecting the successful result of the operation.

DISEASE OF THE SEMILUNAR VALVES OF THE AORTA.

Mr. **Leonard** produced a specimen of congenital malformation of the valves of the aorta. The subject was a fine muscular young man, aged 28 years. He had no previous illness, and had never applied for medical aid. He went to bed apparently in good health, and died suddenly. The heart was greatly enlarged, and very muscular; there were but *two* valves to the aorta, that next the right auricle being largest, as if two had become one; they were much thickened and altered in structure, and totally unfit for service. The aorta above the valves was dilated to about twice its natural diameter, gradually diminishing till, at the innominata, it assumed its natural size.

FIBROUS TUMOUR OF THE UTERUS.

Dr. **Robert Barnes** exhibited the uterus of an aged woman taken to the Hunterian dissecting-room. The uterus presented a fibrous tumour, the size of a marble, attached to the orifice of each Fallopian tube. One of the tumours had been cut away when the uterus was rescued by Mr. Chance. Dr. Barnes read a report from Dr. Hassall relative to the minute structure of the remaining tumour. Dr. Hassall stated that he could detect no difference between its structure and that of the walls of the uterus; he therefore concluded it to be fibro-muscular. Dr. Hassall remarked, that tumours of epithelium, bone, cartilage, &c., were met with, and he could see no reason why muscular tumours might not also be observed.

Dr **Theophilus Thompson** read a paper entitled

HINTS ON SOME RELATIONS OF MORALS AND MEDICINE, WITH SPECIAL REFERENCE TO PULMONARY CONSUMPTION.

The author commenced with some remarks on the principal causes of consumption. 1st. Hereditary influence. This, he observed, could be traced in a considerable proportion of cases,—full a fourth of the patients whom he had questioned having lost a parent from the disease. It was worthy of notice, that this influence is more obvious in women than in men, and seems peculiarly to extend itself in the sex with which, in any given family, it first originated. 2ndly. Contaminated air. This influence is remarkably exhibited in tailors, journeyman bakers, and printers. Tailors have been found to constitute 7.2 of the patients at the Hospital for Consumption. They are, however, very liable to other diseases, constituting 5.8 per cent. at a general hospital. Thirteen per cent. is a high mortality for a class probably composing only a fortieth part of the male population of the metropolis. We cannot wonder, that, of journeyman bakers, probably a fourth have consumptive symptoms, when we reflect that they often work for twenty hours at a time, having gas instead of sunshine, and gusts of flour dust instead of fresh air. The printers in this metropolis are probably a third as numerous as tailors; but at the Hospital for Consumption they are more than half the tailors per centage. Dr. Thompson corroborated an interesting fact deduced from the meritorious investigations of Dr. Guy, namely, that pressmen are less consumptive than compositors, probably owing to the tendency of exercise in some degree to counteract the bad effect of confined air. 3rd. Dissipation. The author had continually witnessed the tendency of syphilis and courses of mercury to induce phthisis. The peculiar liability of soldiers to consumption (whilst sailors are comparatively exempt) he was inclined to think, with Dr. Duncan, (in a valuable communication, in the *Dublin Medical Journal*, vols. 8 & 9,) was in a great degree attributable to the "listlessness of their lives, and the dull monotony of drills and parades." This observation led the author to the special objects of his paper, namely—4. The influence of mental depression. He argued, that the breathing was materially affected by mental emotions; and that anything which retarded the breathing tended to induce pulmonary congestion, and thus to promote the tubercular deposition, in subjects predisposed by impaired nutrition, however produced. Mental causes were the only satisfactory explanation of the fact, that the inmates of prisons in this country, and in America, under every variety of climate and regimen, were more prone to consumption than the general population; the disease, as shown by Dr. Baly, manifesting itself in a high degree during the third year of confinement. The marked diminution of liability of married women, above the age of twenty-five, as compared with men under similar circumstances, the author attributed mainly to the fact, that man is harassed with struggles for the support of his family; but that woman, with more faith and patience, does not so anxiously regard the morrow. Viewed in connexion with this fact, Dr. Thompson called particular attention to the remarkable circumstance, that in London and the provincial cities, with the exception of Leeds, the mortality of females from Consumption is much less than that of males, but that in the country population the reverse is observable; and argued, that the differences of the condition of the sexes in these two divisions must be more moral than physical. He suggested, that the proportion of children born out of wedlock would supply some aid in estimating the moral disquietude of the female population; and in arranging the per centage of deaths from phthisis, derived from the returns of the registrar-general, for some of the principal cities, the correspondence of female mortality, in reference to the mortality of men, with the per centage of illegitimate children, as obtained from the same documents, is remarkable.

Per Centage of Deaths from Phthisis to every 100,000 *of Population.*

	Men.	Women.	Proportion of illegitimate children to children born.
London	455	377	3.2
Liverpool and West Derby	595	571	3.6
Manchester and Salford ..	549	548	5.8
Leeds	440	477	6.0
England and Wales	378	408	7.0
Paris	206	408	28.0

Amongst the practical deductions of the Essay were—1st. That certain simple measures easily available, chiefly in the way of ventilation, as applied to our workshops, might probably reduce the mortality of our artisans in this metropolis by at least a thousand a year. 2ndly. That muscular exercise in the open air is of great importance, especially for men when threatened with consumption; but that women require more shelter, and bear more confinement. 3rdly. That cheerful impressions have a remedial influence, and that, under circumstances of intense study or anxious care, it is very important, from time to time, systematically to practise breathing. 4thly. That education may accomplish much for the promotion of health by teaching a correct estimate of power, restraining ambition, and training to equanimity of mind and to exhilarating habits of usefulness.

In the discussion which took place on Dr. Thompson's paper, various points were touched upon by the different speakers. Thus it was thought by some, that the numbers advanced by Dr. Thompson, in support of his views, were not sufficient to determine the question. With respect to the influence of moral causes in the production of consumption, but more especially that which had reference to the distress of mind of the mother occasioned by illegitimate children, it was contended that this had really no effect; the fact of more children being born illegitimate in the country, and phthisis being less common in rural districts, was advanced in proof. It was shown, however, by a variety of facts, that mental depression had a great influence in the production of phthisis.

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON, &c.

> Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tum aliorum proprias, collectas habere et inter se comparare.—Morgagni. *De Sed. et Caus. Morb.* lib. 14. Proœmum.

ST. THOMAS'S HOSPITAL.

Nosocomial Erysipelas.

(Under the care of Mr. South.)

Erysipelas used formerly to be much more common in hospitals than it is at present, when less attention was paid to cleanliness and ventilation. Great improvements have taken place within the last half-century with respect to hygienic measures, but even in our own days a sufficient amount of precaution is not taken to keep off this formidable disease, and now and then it mows down, with fearful rapidity, a large number of patients labouring under accidental or surgical wounds. It would be well if great care were taken to remove from the wards as quickly as possible all excretions and secretions which are likely to contaminate the air, and even to remove the patient himself into a private ward, when the nature of his complaint necessarily surrounds him with much effluvium. When erysipelas has once broken out, it would, according to all experience, be advisable to convey the person affected at once into a separate room, as the rapidity with which the disease spreads from bed to bed is but too well known. Sponges, &c., used for this patient should not find their way again among the other inmates of the hospital, and a distinct nurse should be appointed to wait upon him alone, as is the case with patients labouring under delirium, &c. With respect to leeches, we noticed an extremely prudent course pursued in all cases at St. Bartholomew's Hospital: the leeches are, namely, used but once, and destroyed after they have served their purpose.

Another very essential point is, that the enormous quantity of refuse arising from the surgical practice of an hospital, as poultices, dressings, purulent matter, tow, soiled lint, &c., should not be allowed to accumulate in any part of the premises, but be at once conveyed to a distance; it should, in fact, be removed every day. More than ordinary care should be bestowed on the cesspools, water-closets, &c., as such a large accumulation of human beings, all of whose secretions are more or less disordered, calls for especial caution in this respect. Water should be superabundant, and ventilation attended to with the greatest nicety. The latter is at the present time in a very satisfactory state in most of our nosocomial establishments.

Surgeons and their pupils might likewise use disinfecting aspersions when they leave a patient attacked with erysipelas; and the manner in which students at Vienna excited puerperal fever, by attending lying-in women in clothes impregnated with effluvia, should be a warning for all those who are in the least likely to cause similar mischief. It must, however, be confessed, that erysipelas will sometimes spread in an hospital as the effect of atmospheric influences, in spite of the careful observance of the strictest sanitory regulations: the efforts should then be directed to the rapid isolation of the persons attacked, so as to avoid an accumulation of the morbid poison.

We have had occasion to observe, at various periods, in the hospitals of London, epidemics of erysipelas, of different intensity. The last took place at St. Thomas's Hospital, and we shall just give a short sketch of some of the cases which have proved fatal. In this task we are assisted by the notes of Mr. S. Skipton, the dresser of the patients.

Case 1.—This case refers to a man, thirty-nine years of age, a wheelwright by trade, who was admitted into Isaac's ward, under the care of Mr. South, on the 12th of November, 1850. The patient stated that the orifice of his prepuce had, about a twelvemonth since, acquired a warty character, he being labouring, at the same time, under congenital phimosis. The induration was attended with a shooting pain, which was considerably increased when he passed urine. It was found, on examination, that the prepuce behind the induration was likewise indurated, and formed a hard cylinder, of a narrow diameter.

Mr. Dixon, shortly after the patient's admission, removed the whole of the indurated portion of the prepuce, and two days afterwards shivering occurred, and feverish symptoms were noticed. Tartrate of potash mixture was ordered, but the pyrexia persisted; the pulse was full and jerking, though weak; the face anxious; the penis much swollen, and a speck of gangrene was now discovered on the organ. Seven days after the operation, the general symptoms began to abate, but the slough on the penis was becoming larger. An abundance of sustenance and stimulants was ordered, but the patient died on Dec. 6th, eleven days after the operation.

Case 2.—The second case is that of a man, aged forty years, following the occupation of milkman, who was admitted into Isaac's ward, under the care of Mr. South, Oct. 28th, 1850. He stated, that twelve months ago he pulled a corn from beneath the nail of his great toe, which latter had been very sore ever since. About a week before admission, the toe began to feel painful and swollen, and the pain had, on the day preceding his entrance into hospital, extended to the knee. On examination, the toe was found much swollen and inflamed; it presented a tendency to suppuration, and the foot and ankle were œdematous. After a series of soothing applications had been used, Mr. Simon, in the absence of Mr. South, made, about three weeks after admission, an incision into the toe by the side of the nail. Some purulent matter was evacuated, and on a probe being passed into the wound, the instrument impinged upon a portion of dead bone, which was removed.

A week after the above measure had been resorted to, erysipelatous inflammation appeared on the foot, and in a very short time extended up the leg to the groin and scrotum. The patient became soon extremely weak; quinine and wine were administered liberally, but large gangrenous patches made their appearance, and extensive sloughs were thrown off from the anterior and outer portion of the leg, almost the entire circumference of the thigh, and part of the scrotum. On the leg and thigh the muscles were laid bare; the destruction soon reached the crest of the ilium, and the bursa over the great trochanter was finally laid open. The most strenuous efforts were made to keep up the patient's strength whilst this extensive sloughing process was going on, but the edges along the solutions of the continuity assumed a livid colour, no attempt at healthy inflammation could be discovered, and the patient gradually sunk, and died on Dec. 21st, seven weeks after admission.

It will be seen that the above two cases occurred in Isaac's ward. The first was operated on for phimosis, on Nov. 25th, just as the erysipelatous inflammation was making its appearance on the second patient's foot. The disease ran a much shorter course in the phimosis case, (eleven days,) the one resulting from infection, than it did in the case of inflamed toe, (four weeks,) which may be considered as the idiopathic one: this fact is worthy of remark.

Before we mention the third case, it will be important to observe that the female wards of St. Thomas's Hospital, with the exception of those set apart for syphilitic cases, are situated in a building completely detached from the original institution, and that they are remarkable for their loftiness, neatness, and excellent hygienic arrangements. The erysipelatous influence spread, however, into these wards, and the only circumstance which might perhaps account for this fact is, that the dressers freely pass from the male to the female wards in the execution of their duty to the sick.

The third case refers to a woman, fifty-four years of age, and married, who was admitted under the care of Mr. South, November 19th, 1850. The patient presented a tumour of the malignant character in the left breast, quite moveable, except on one part, and unattached to the skin. The woman looked rather weak and delicate, and came into the hospital for the purpose of having the tumour removed; the glands in the axilla were unaffected.

Eleven days after admission Mr. South performed the operation whilst the patient was under the influence of chloroform; more skin had to be removed than had been expected, and from this circumstance the edges of the wound could not be brought into apposition, except at the outer part. Adhesive straps were so placed as to facilitate the approximation of the edges, and a bread poultice was placed over the wound. The patient became very weak when placed in bed, had several doses of tincture of opium, and about four days afterwards she began to complain of rheumatic pains in the right arm. Colchicum was administered with an anodyne at night; diarrhœa, however, came on, and for this the proper remedies were administered. On the eighth day after the operation an erysipelatous blush appeared on the chest, involving both breasts, and the patient became very weak. Arrow-root and brandy were ordered, as also bark and ammonia. The wound, which from the beginning had looked very inactive, became still more sluggish, the inflammation spread rapidly towards the left shoulder, and vesications formed in various places. In a few days the erysipelas had reached the back; the bowels became relaxed; the patient rapidly lost ground, and died thirteen days after the operation.

The fact of this infectious disease attacking patients in distant wards of the same institution was exemplified in the summer of 1850, at Guy's Hospital; the evil influence did not, however, last a long time there, and we are happy to state that the storm had been entirely blown over at St. Thomas's. A very interesting question, and one well worthy of a *prize*, would be the discovery of the best prophylactic means against the breaking out of hospital erysipelas.

Extravasation of Urine in a Child of seventeen months; Gangrene of Penis; Death; Autopsy.

(Under the care of Mr. Mackmurdo.)

It has been very justly said that the lower in the intellectual scale a patient is placed, the more difficult for the practitioner is the task of treating him; thus the medical attendant finds obstacles of a peculiar kind when called upon to prescribe for an insane person, an idiot, the deaf and dumb, or children. There can be no doubt but that a great deal of acuteness and practice is required to conduct such cases safely. The sensations of the patient and the amount of mischief going on must be deduced mainly from involuntary external manifestations; and when it is considered that our diagnosis may be incorrect when assisted by the statements of a clear-headed patient, it will be conceded that especial care is necessary in such cases as we have mentioned. Take retention of urine in a very young child; of course the little patient cannot give information as to the time which has elapsed since he passed urine last, and the parents are, for the most part, as gnorant as the child in this respect.

From the notes which Mr. Charles Chaldecott kindly placed at our disposal, we find that the patient was a ittle boy seventeen months old, who was admitted under the care of Mr. Mackmurdo, July 24, 1850. He was brought to the hospital, suffering, as it appeared, from retention of urine, and *was said* not to have passed water for more than twenty-four hours. The nteguments of the penis and scrotum were much distended with transparent fluid. In consequence of this distention, the glans were so retracted that it was found impossible, after repeated trials, to introduce a small gum or other cathether, or even to find the meatus with a cat-gut bougie. Although the tension was somewhat relieved by the oozing of some clear, transparent, inodorous fluid, which followed several punctures made with the point of a lancet in the swollen parts, it was not until a portion of prepuce had been removed by the knife, that a catheter could be passed nto the bladder; about twelve ounces of urine were then drawn off.

The absence of urinous smell, and the transparency of the fluid which was discharged by the lancet, was particularly noticed, and seemed to militate at this time with the idea that extravasation of urine had taken place. A dose of castor-oil was given in the evening, and the child slept pretty well, although restless and uneasy at times. He did not appear to suffer much pain, except when pressure was made on the abdomen, which region was hot and tense.

During the second day, the catheter was passed wice, and a fair amount of water discharged each time. On the third day, it was found, although no difficulty was experienced in using the catheter, that the integuments of the penis and scrotum were inflamed and edematous: this was particularly the case with the cellular tissue of the penis, which towards evening became so distended as to produce paraphimosis, and the edges of the wound left by the operation of circumcision now began to assume a sloughy appearance. ncisions were made with a scalpel into this part, and one of these laid open a cavity, which existed quite at the extremity of what prepuce remained, and behind the glans penis. From this were discharged about two drachms of fluid, consisting of mixed pus and urine. The parietes of this cavity had a sloughy appearance.

This was the first indication of anything like extravasation of urine, and it was thought, at the time, that this small collection of urinous-smelling fluid, existing as it did just at the part where the prepuce had been removed, might have been induced by infiltration of urine into the recently-cut cellular tissue, as it dribbled from the orifice of the urethra; or that such urine was spilled, as it came from the catheter. This supposition seemed to be more entitled to consideration than the dea that any lesion existed in the urethra itself. Two or three cuts were likewise made in the scrotum, and the parts being enveloped in a poultice, they soon regained their natural size. Plenty of nourishment, such as wine, eggs, &c., was freely taken by the child.

On the fourth day a pretty large quantity of urine had passed away into the poultice and bed, though some was drawn off by the catheter; and on the 7th the water was freely voided through the proper channel, without the aid of the instrument. On the eighth day, however, the prepuce had begun to slough towards the part where the incisions had been made; on the 9th, the gangrene seemed to have gained the urethra just opposite the angle where the integuments of the penis are continued on the scrotum, for an opening was noticed on this spot through which urine was passing. Mr. Mackmurdo directed an elastic gum-catheter to be kept in the bladder. On the twelfth day the sloughing had continued to spread till it had involved all the integuments on the left side of the penis and scrotum. No urine passed through the catheter, but dribbled freely by the side of the instrument through the hole in the urethra. The child continued to take stimulants and nourishment with some pleasure, but he was growing weaker every day. The poor little creature lingered until the twenty-sixth day after admission, when he died, the sloughing having advanced and destroyed the integuments of the penis, all the corpus spongiosum, part of each corpus cavernosum, the integuments of the scrotum, of the pubes and inguinal regions as high as midway between the umbilicus and symphysis pubis.

The post-mortem examination was conducted by Mr. Adams, demonstrator of morbid anatomy to the hospital, when the above-mentioned destruction was again ascertained, and it was moreover noticed that the cord and the testicles had been quite denuded by the sloughing process. The destruction of the corpus spongiosum extended from the glans down to a little anterior to the bulb, where the urethra, in this state of things, may be said to have terminated; part of the urethral canal, however, still remained through the glans penis. The membranous portion of the urethra was ulcerated inferiorly, and the prostatic part dilated into a pouch on either side; the right dilatation contained a loosely impacted hard calculus, about the size and shape of a pea; the left expansion led directly to a false passage opening into the cellular tissue *external* to the bladder; this passage was about an inch and a half in length, ended near the termination of the left ureter, and was lined by a smooth adventitious membrane. It was supposed that this perforation might have been produced by the burrowing of purulent matter, the secretion of which had been excited by an impacted mass of soft calculous concretion. The internal surface of the prostatic portion of the urethra, and the mucous membrane of the bladder for three-quarters of an inch above the prostate gland, were superficially ulcerated and coated with phosphatic deposit. The other parts of the mucous membrane were healthy, and the walls of the bladder were of the natural thickness.

On examining the left kidney, (the side of perforation of the prostatic portion of the urethra,) it was found considerably increased in size, and its membranous portion was somewhat dilated. The ureter of this kidney was irregularly contracted for a distance of an inch and a half from the pelvis of the organ, where it suddenly assumed a considerable dilatation, and at a point about three inches from the kidney it suddenly contracted again, so much so that its canal would not admit the passage of a small pin. Below this spot the ureter continued small to its entrance into the bladder. On the right side, both the kidney and ureter were found healthy, as were also the other organs of the body, which latter presented, however, a great degree of emaciation.

In reviewing the various facts connected with this case, one is involuntarily led to look upon the prostate gland as the primary seat of the mischief, especially if the case of retention under the care of Mr. Hilton, at Guy's Hospital, is placed in juxtaposition with Mr. Mackmurdo's. In the former, the subject was only twenty months, and it may be allowed to conjecture that the chain of symptoms was mainly owing to a calculous concretion about the prostate gland, the irritating presence of which had first caused inflammation of the gland, then retention of urine, and subsequently abscess. In the latter case we may likewise suppose (and, indeed, with far more certainty than in the first case, as one of the calculi was actually found) that such calculous matter gave rise to the same train of symptoms, but that the abscess, instead of bursting either through the urethra, rectum, or perinæum, opened into the cellular tissue external to the prostate and bladder, and thus caused the distressing phenomena which had ended in the death of the child.

If we admit that the calculi had much influence on the development of the symptoms, we are led to inquire whence these foreign bodies originated; and many reasons will at once spring up in favour of the opinion that these were prostatic calculi. We mean here to refer to both the above-mentioned patients, as several persons, in Mr. Hilton's case, (among whom was Mr. Cock,) were under the impression that the sound came in contact with a stone. If we turn to Mr. Coulson's valuable work on the bladder and prostate gland, we shall find (p. 265) "that these calculi often do not exceed the size of the head of an ordinary-sized pin, and that they are rarely larger than a pea;" and "that, according to Wollaston, they are mostly composed of phosphate of lime." It will be recollected that *deposits* of this salt were found mainly in the prostatic portion of the urethra, and for a very small distance on the mucous membrane of the bladder, (*vide* post-mortem examination above.) Now it may fairly be supposed that the presence of these calculi gave rise to acute inflammation of the gland: on this head, Mr. Coulson says, (p. 241,) "Concretions that not unfrequently form in the prostatic lacunæ produce prostatitis;" and further, (p. 240,) "The inflammatory action, if not checked, shortly extends to the neck of the bladder, and sometimes to the whole inner lining of the same organ; then *total retention of urine* frequently succeeds."

Though diseases of the prostate are generally looked upon as attacking subjects of advanced age, it would appear, if our opinion is correct, that infants are not free from such an affection. Could the presence of worms in the rectum have something to do with this? Mr. Coulson answers in the affirmative, and says, (p 242,) "Worms situated in the lower bowel have been observed at times to cause considerable irritation in the prostate, which is allayed only by the expulsion of those parasites." An indication which would naturally flow from this state of things would be the administration of a good anthelmintic dose in doubtful cases of this description.

It will be perceived that, as stated above, the abscess in Mr. Hilton's patient pointed externally, and was opened in the perinæum; Mr. Hilton mentioning in his remarks: "Calculus as the cause of the retention can hardly be entirely rejected, though it may be asked, What had become of the stone if such a foreign body had caused the obstruction? Had it escaped unnoticed when the abscess was opened?" We are strongly inclined to believe that it did, the more so as it is very probable that, in Mr. Mackmurdo's patient, the concretion escaped with the pus of the abscess into the cellular tissue, and contributed to increase the irritation caused by the presence of the purulent matter. We are aware that we cannot bring forward tangible proof that the phenomena did actually succeed each other as we have stated; we leave the matter to the consideration of our readers: they will judge for themselves. We would only remark, that nothing in Mr. Mackmurdo's case pointed during life to the formation of abscess, and that our train of reasoning is entirely deduced from the post-mortem appearances. We beg to conclude by the following quotation from Mr. Coulson's excellent book, from which we have already borrowed so largely, (p. 247:) "It is desirable that the matter of the abscess should find its way neither into the rectum, the urethra, nor *behind the bladder*, which may be fatal, but should pass to the surface, in order to discharge its contents more freely and heal more readily."

ST. BARTHOLOMEW'S HOSPITAL.

Penetrating Wound of the Knee-Joint.

(Under the care of MR. LAWRENCE.)

IDIOPATHIC affections of the knee-joint have fixed the attention of some of the most eminent surgeons, whose valuable investigations have contributed in placing the treatment of this disease upon a sure basis. It is, nevertheless, now and then somewhat difficult to determine, in a given case, in which of the structures entering into the joint the inflammation has begun; yet in a great many instances the symptoms point sufficiently clearly to the synovial membrane as being the part primarily affected. We desire to put on record a case lately under the care of Mr. Lawrence, the treatment of which will illustrate in a very forcible manner what a powerful control energetic antiphlogistic measures may exercise upon inflammation of the synovial membrane; such inflammation being but too often accompanied by dangerous constitutional disturbance, and followed by anchylosis.

The patient, David M——, a carpenter by trade, and thirty-six years of age, was admitted into Henry VIII. ward, under the care of Mr. Lawrence, October 15, 1850. He is a strong, muscular, well-fed man, of sanguineous temperament, and had met with a penetrating wound of the knee-joint. It appears that patient, six days previous to his admission, being employed at Shooter's Hill, in taking up the flooring of an apartment, and whilst kneeling on both knees, unfortunately run a very sharp chisel into the left joint, just above the patella. The knee was evidently in a very unfavourable position to resist an injury of this nature, as the patella is forcibly drawn towards the head of the tibia in the kneeling posture, the depression between the condyles of the femur being quite unprotected, and the synovial membrane on the stretch.

The patient distinctly states that he felt no pain at the time of the injury, though it is clear that the chisel must have run directly into the joint between the condyles of the femur and the posterior surface of the patella. The circumstance of no pain being experienced by the punctured wound of the synovial membrane is not unworthy of remark, as contrasted with the suffering complained of when that membrane passes into a state of acute inflammation. Thus may the pleura, or other serous membrane, be punctured by the surgeon without giving the patient much pain; whilst the stitch of pleurisy is so difficult to bear. The same may be said of the tunica vaginalis, whilst, on the other hand, phenomena of a reversed character are, as every one knows, manifested in the skin.

The patient was able to rise, stand erect, and walk across the room to a seat, but sufficiently conscious of injury to send for a surgeon. The latter saw the wound about an hour after the accident; by this time the joint had become somewhat œdematous, but no synovia had escaped externally. The injury was pronounced of a trifling character, the wound brought together by strips of adhesive plaster, and rest enjoined. The patient remained six days in the country, and finding that the knee was getting worse, forthwith repaired to London, and was admitted into St. Bartholomew's Hospital. The pain had gradually increased during this lapse of time, but the joint did not swell very rapidly.

On admission, the knee was found swollen and tense, the skin unchanged in colour, the natural prominences of the joint were effaced, and the leg was becoming œdematous. Though pressure gave some pain, it was not of a very acute description, yet flexion of the joint could hardly be borne; skin hot, pulse 100, full. Mr. Lawrence ordered a linseed poultice to the part, and fourteen ounces of blood to be taken from the arm; low diet, and a solution of one drachm of sulphate of magnesia and a quarter of a grain of tartarized antimony, to be taken every sixth hour.

The next day an aperient was administered, and on the joint being examined, it was found that the pain was still considerable. Twenty-four leeches were ordered to be applied to the knee, and two grains of calomel, with a third of a grain of opium, to be taken every sixth hour. On the third day, twenty-four leeches were again placed upon the joint, and the same number on the fourth day. Sleep was procured by morphia at night, and small dozes of tartrate of soda administered every sixth hour.

As signs of inflammation of the synovial membrane were continuing, twenty-four leeches to the knee were ordered on the sixth day, and as the patient could get no rest, he was given five grains of soap pill, to be repeated every two hours until sleep was induced. On the eighth day, the same number of leeches as before was again applied to the joint, and the mouth became sore on the fifteenth day.

On November 2nd, being the nineteenth day after admission, six leeches were placed upon the knee; and the patient having at this time been considerably lowered, and the pulse being somewhat weak, Mr. Lawrence allowed a good diet and wine. Counter-irritation was now resorted to, as the joint, though much less painful and less swollen, was still stiff and somewhat tender. On the twenty-second day a blistering plaster was applied, and on the twenty-sixth the joint was quite free from pain; it was no longer tender on pressure, and could be slightly moved, though the patella was quite fixed.

It will be perceived that up to this date very energetic antiphlogistic means were resorted to; no less than eleven dozen leeches having been applied to the joint in the space of about twenty days. The wound made by the chisel had cicatrized very rapidly, but was somewhat interfered with by the blister having irritated it. The cicatrix was of a transverse direction, parallel to and just a little above the superior border of the patella, and about one inch and a half in length.

From the twenty-sixth day after admission the patient continued to progress very favourably; he was allowed a generous diet, tonics, &c., and on the 18th of December, about two months after the treatment had been begun, he walked about the ward supported on crutches, and being able to flex the joint in a slight degree. The latter presented much less induration and thickening, and the patella could be moved more easily. On the 15th of January, three months after admission, the knee had recovered much of its power, and its eventual restoration to complete efficiency may be looked forward to, though a certain amount of time will still be required until this end is attained.

We followed the different phases of this case with peculiar interest, and were particularly anxious to ascertain how far rapid depletion around the joint, combined with antimony and subsequently with mercury, would command the inflammation of the synovial membrane and the constitutional disturbance. We were the more attracted to this case, as we have had occasion, in two or three instances, to notice the rapidly baneful effects of penetrating wounds of joints, both as regarded the limb and the system at large, and it was with much pleasure that we noticed the gradual improvement which was taking place in the present instance. It is generally allowed that, under such circumstances, much depends on the constitution and the previous habits of the patient; but it should likewise be noticed (and it is perfectly evident from the above case,) that the judicious use of depletion, and of the peculiar properties of mercury, give the surgeon the power of controlling, to a very great degree, the destructive effects of the serous inflammation he has to combat. We have repeatedly seen, not only wounds, but mere contusions of joints, followed by such severe symptoms as in some cases to necessitate the amputation of the limb to save the patient's life. It would thus appear, from the consideration of Mr. Lawrence's treatment in the present case, that injuries of the above-described kind should never be looked upon as trifling, and that when inflammation of the synovial membrane, either traumatic or idiopathic, is merely *suspected*, we not only *may* boldly deplete, but it is our duty to do so as early as we can.

LONDON HOSPITAL.

Cases of Encephaloid Disease of the Lower End of the Radius.

(Under the care of Mr. LUKE and Mr. ADAMS.)

WE have lately had several opportunities of recording cases of medullary disease of bone, the parts of the osseous system affected being chiefly the femur, or the superior maxilla. Tumours of this nature seem to spring up more rarely in the upper extremity; we therefore beg to direct attention to the following cases, which were lately treated in the London Hospital.

CASE 1.—Sarah G——, aged forty-four, of light complexion and nervous temperament, following the occupation of cook in a gentleman's family, was admitted under the care of Mr. Luke, Jan. 14, 1851. Both her parents are dead: the father died in consequence of mental affliction, and the mother in childbed; no trace of malignant disease has ever been noticed among her brothers and sisters. The patient has been married twice, and is now a widow, without ever having had any children. The menstrual functions were always regularly performed, and have not yet ceased.

Fifteen months ago, whilst moving a chest of drawers, her right hand was forcibly bent backwards, the dorsum almost coming in contact with the forearm. This accident gave her much pain in the wrist; the inflammation ran very high, without much cutaneous discoloration, but was at length subdued by the ordinary means. The joint, however, remained weak, though not the seat of much pain; she used a great variety of embrocations, but to very little purpose. Within the last six months, she perceived an enlargement on the lower end of the forearm; it increased very slowly, and occasioned a pain which she described as gnawing and aching.

About three months ago, whilst using her right hand for cutting bread, she felt something snap and give way in the swelling: from that time she lost all power over the joint, and could not, as she stated, lift a wineglass with the corresponding hand. The pain now increased, and became more constant; the swelling grew larger, and she was induced to place herself under Mr. Luke's care.

On admission, the tumour was found situated on the posterior aspect of the forearm, just above the wrist: it was of the size of a flattened egg, tough, immovable, and somewhat sensible to pressure. The movements of the joint were lost: the pain was at times severe, and shot to the front of the wrist, though the axillary glands were unaffected. Taking the present state of the tumour and the history of the case into account, Mr. Luke considered the swelling a malignant growth of the bones of the forearm, and was wishing to make an exploring puncture into it, so as to ascertain, if possible, the actual nature of the growth. The patient was, however, extremely apprehensive of the simplest operative proceeding, and it took some time before she fully understood how necessary it was to her safety that the most decisive measures should be taken. Seeing clearly, at last, that the earlier the tumour was removed the more chance there was of the constitution escaping contamination, she consented to the amputation of the forearm, if Mr. Luke should judge this proceeding indispensable, after an exploring incision had been made in the theatre.

Mr. Luke being anxious that the diagnosis should rest on the most secure basis, requested the assistance of Mr. Quekett, the eminent microscopist. It was agreed that Mr. Quekett should be present in the operating theatre, that the tumour should be punctured, the substance obtained immediately examined under the microscope, and that if it were pronounced malignant, the forearm should be at once amputated. It will thus be seen that the indications obtained by the microscope were here taken advantage of in a very appropriate manner, and it is clear that the instrument, thus used, is likely to render incalculable service. On this head we cannot refrain from quoting a passage from Mr. Guthrie's lecture, just delivered before the Medical Society of London, which bears very forcibly on this subject.

"The microscope in the hands of Mr. Quekett discloses the nature of the diseased as well as the healthy structures. The secretion from a diseased part will often show the nature of the disease itself, and enable the surgeon to judge whether an operation may or may not be performed with a reasonable hope of success; and the knowledge which Mr. Quekett has thus acquired is at the service of every member of the profession who stands in need of it, and cannot fail to be to them of the greatest advantage."

The patient was brought into the theatre on Feb. 13, when Mr. Luke proceeded to make an incision into the tumour, and some of its component particles being obtained, they were placed under the microscope by Mr. Quekett, who found them composed of nucleated cells, some of which were of a circular, and others of an oval figure; the greater number were full of blastemic granular matter, so as, in the majority of cases, to obscure the nucleus. Some of the cells were as large again as others, and the granular matter, when out of the cells, exhibited a molecular movement.

There being now no doubt as to the malignant nature of the tumour, the patient was placed under the influence of chloroform, and Mr. Luke removed the forearm near the junction of the middle with the upper third by the double flap operation. There was some difficulty in the securing of the vessels, from a more than usual retraction of parts; the patient was, however, put to bed in a very favourable condition.

There was slight hæmorrhage on the next day, which was easily controlled, but it would appear that the effects of the chloroform did not in this case pass off as usual; during four days after the operation there was intense headache, heaviness, and wandering. These symptoms were combated by cold applications to the head, and finally subsided. The patient has since progressed very satisfactorily, in spite of a slight attack of erysipelas; she is now quite convalescent, and the stump almost cicatrized.

The pathological specimen was carefully examined, and on a section of the tumour and hand being made, it was found that the encephaloid growth had formed in the substance of the radius, just above the wrist. In its collapsed state it was about the size of a small apple, and presented the usual characters of encephaloid formations. The tumour was surrounded by a shell of bone, which was found to be an expansion of the cortical portion of the radius. The medullary canal of the bone presented a tolerably healthy aspect, and the ulna was quite free from disease. The joint was not implicated, and the tendons, vessels, and nerves of the part were pushed aside, but not involved in the disease.

This is the second case of the kind which has been under the care of Mr. Luke; the first patient was a man about forty-four years of age, who presented a tumour in the same situation, and almost of the same nature, as in the case just reported. The growth, however, was found, after the amputation of the forearm, to have had its origin in the periosteum, and it is satisfactory to note that the operation was performed about a twelvemonth ago, and that the patient is now in good health.

The question which at once springs up in the practitioner's mind, in considering cases of the above description, is that regarding the recurrence of the disease. We are bound to state that Mr. Luke entertains the hope that the disease will not return; and if we judge from cases which have occurred in this hospital, it might be inferred that in certain instances morbid manifestations do not recur.

The late Mr. Headington, surgeon to the hospital, removed the leg of a woman whose tibia (which is now in the museum of the institution) was affected with encephaloid disease; twenty years after the operation the patient was quite well. Mr. Luke removed, several years ago, a tumour of a malignant character, connected with the scapula of a young girl. Three-fourths of the bone were taken off with the growth; the patient was seen fourteen years afterwards by Mr. Luke, and had not experienced any return of the disease.

It is but just that cases like the above should be placed in juxtaposition with those where the disease has reappeared. Mr. Stanley, in his valuable work on diseases of bones, states (p. 178,)—"The disease (encephaloid of bone) is most probably always at first local, and continues so until the circulating fluids and constitution become affected; from the part in which the disease commences, some of the morbid matter passes into the bloodvessels and absorbents, and poisons the blood, and thus gives rise to the formation of secondary tumours in other parts of the body. If, therefore, the encephaloid tumour is removed before the blood has become poisoned, the disease will not return; but if the morbid matters have already entered the circulation, it will be produced in other parts of the body. According to these views the encephaloid tumour of bone should be removed as soon as possible."

SECOND CASE.

(Under the care of Mr. ADAMS.)

Elizabeth F——, aged twenty-seven years, a servant, of fair complexion, was admitted under the care of Mr. Adams, December 17, 1850. Her father and sister died of phthisis, and a brother from chronic abscess of the thigh; she began menstruating at fourteen, and has since been very regular in that respect The patient's health has always been good, her food wholesome, and her work moderate.

Four years ago she began to feel a small lump just over the end of the radius, on the right side, without being able to ascribe its origin to any cause, except it were the forcible wringing of clothes. She likewise stated that she felt some numbness in the fingers before the tumour appeared; the latter gave her much pain, and remained for two years about the size of a nut, she continuing to follow her occupation. After this lapse of time it grew more quickly, and soon reached the size of a walnut, when it was opened by a surgeon. The patient could not point out the nature of the fluid which escaped; the wound healed up quickly, and the swelling steadily increased until she was induced to apply to this hospital.

On admission the tumour was found occupying the lower third of the forearm, for the whole of its anterior aspect; it projected about two inches from the bone, and formed a nodulated swelling, about the size of a large orange, tense in some points, yielding in others, and giving the sensation of fluid, or a soft substance. The lower portion, especially the nodules, were of a bluish colour, but the upper was lighter, the whole growth quite immovable, and some of the nodules seemed ready to burst. The patient can flex all the fingers, and extend them, except the middle and ring finger, but she cannot pronate the arm. The axillary glands are unaffected.

Mr. Adams, considering that the bones were attacked with malignant disease, proposed amputation of the forearm, which was performed, the patient being under the influence of chloroform. The wound healed very rapidly; the girl had no unfavourable symptoms whatsoever, and was discharged a few weeks after admission, the stump being cicatrized.

The tumour presented, on a longitudinal section being made, the usual characters of encephaloid growths; it reached from the ball of the thumb half way up the forearm, and lay on the bones without being connected with the wrist-joint. It was nodulated and firm, and seemed to have been originally of a cystic nature. It will be observed that the three cases of malignant tumour of the forearm which we have put upon record, although analogous in several respects, present this difference, that the first sprung from the substance of the bone; the second equally so, but with cystic formations, and the third was of a purely cystic nature, growing in the immediate vicinity of, but not connected with, the bone.

GUY'S HOSPITAL.

Hydatid Cyst of the Liver.

(Under the care of Mr. Hilton.)

Tumours situated in the abdomen are frequently very difficult of diagnosis, and this circumstance will hardly cause any surprise when it is considered how many symptoms the most different abnormal growths have in common. When we have a male patient to deal with, the range of suppositions is somewhat more restricted than in the other sex; but even then, solid tumours, abscesses, enlargement of organs, accumulation of fæces, and hydatid cysts, may not present very distinctive characters. As to the latter, Dr. Watson says, very properly, (vol. ii. p 491,) "We can seldom tell that hydatid cysts exist in the body until we see them; nor, if we knew their presence, could we propose any rational method of cure"

That we possess so little control over these parasites is greatly to be regretted, especially when it is considered how summarily we now deal with the various kinds of intestinal worms; but this great difference lies perhaps in the fact that the acephalocysts mostly take root in the *intimate* texture of our organs. Indeed, the opinion of Ruysch and Bremser, that hydatids may degenerate in atheromatous, steatomatous, or melicerous tumours, is well worthy of consideration, and the rise and progress of many tumours are enveloped in such mystery that the belief in a parasitic origin might easily be entertained.

The subject of hydatid growths is thus in many respects highly interesting to the practitioner, and Dr. Copland may well say,—"When we consider these parasites originating without any determined cause, in the very substance of our organs, developing and multiplying themselves, and manifesting their existence only by compression of adjoining structures, whence often result the most serious effects, and even death itself; it must be admitted that they deserve a due share of attention." In the case which we have this day to record it would appear that the cause was somewhat better "determined" than usual, as will be seen by the following report, carefully drawn up by Mr. Pavy:—

Joseph M——, aged forty-two years, was admitted into Luke ward, Nov. 27, 1850. He is a hale, strong, and robust-looking man, with a fresh colour, and an appearance contraindicating the existence of a malignant diathesis, and with a complete absence of those symptoms and signs which would lead one to suspect the previous or present contamination of his system with miasmatic or aguish taint. The patient is a married man, has lived pretty freely, and until the last year—during which he has been unable to work—has been employed as a gun-maker, in which employment he was obliged to exert continuous pressure over his epigastric region with a breast-plate whilst boring gun-barrels.

Ten years ago he went out to the Cape: during the voyage he fell down the hatchway of the ship, and hurt his left side, but did not fracture any ribs; a slight pain, especially on coughing, remained in that spot for some time afterwards. From the Cape he went to the Mauritius, and resided there, until his return home. Six years ago, the patient had the Bengal fever, which confined him to his room for three weeks. About five years since he used to have frequent attacks of stitch in his left side, which attracted his attention to the part, and on examination he discovered a small lump just below the ribs, which was slightly tender to the touch, but not in itself painful.

He applied to a medical man, who blistered him and gave mercury, but the tumour continued to grow, and at last attained such a size as to interfere with his employment. He came to England for advice about one year ago, has followed no occupation since, and the tumour has grown more rapidly than it did before. The pain was not very severe, but about four months previous to his admission, it was so great that he could not move in bed.

On examination, an enormous tumour was found in the epigastric, the left and right hypochondriac regions, reaching down as far as the umbilicus; just below the ribs is a prominence, which gives an indication of fluctuation; in other parts the tumour is hard and resisting to the touch; and below, its termination can be distinctly felt. The rectus and the other abdominal muscles may be seen acting over it; the ribs and ensiform cartilage are everted by the pressure upwards. Respiratory murmur deficient over the base of the right lung, probably from displacement of the liver; sounds of the heart normal, but heard more towards the mesial line than natural; breath short, and oppression after meals; bowels confined; urine free and natural. There is no bruit in the tumour, but it evinces an impulse with each systole of the ventricle. The patient is restless, and cannot lie on his back.

On the third day after admission the tumour was tapped in its most prominent part with a trocar; no fluid, but some pus, was obtained by the cupping-glass, in which the microscope showed the presence of a claw or member of the Echinococcus hominis. On the sixth day there was shivering and loss of appetite. On the ninth day the swelling was larger, and there was evidence, by percussion, that air was contained in it. The distress required opium at night. On the tenth day extensive superficial redness came on, as well as a little œdema where the puncture was made, and the veins were well marked. Pericardial friction-sound, pointing to pericarditis. The symptoms became so urgent, that Mr. Hilton made a vertical incision, three-quarters of an inch in extent, over and down to the cyst, and then introduced a large trocar and canula. A quantity of offensive gas issued, but nothing more until the canula was withdrawn, when a number of hydatid cysts, about the size of a marble, came rolling out. The patient's abdomen had been previously strapped with adhesive plaster, and a plug of lint was now placed in the wound. Milk diet; brandy and soda-water.—Nine P.M.: On removing the plug a quantity of hydatids again issued. On the next day more hydatids were obtained; pulse 128, small and compressible; respiration 51; patient anxious and distressed; pain in the thorax and shoulders; pericardial friction-sound more diffused and audible; perspiration and restlessness. Mr. Hilton prescribed mercury, quinine, and a blister over the region of the heart. More hydatids came away on the same day, and were of an exceedingly offensive character.

On the fifth day after the operation, about a pint and a half of purulent matter and hydatids were procured from the cyst; these were very offensive, and of a yellowish colour, from the presence of bile, as proved by becoming of a pink colour with nitric acid, and of a deep-red with sulphuric acid and sugar. The patient lingered for a few days, and died on the nineteenth day after admission, and the tenth after the opening of the cyst.

The post-mortem examination presented the following appearances:—On removing the integuments, a slight collection of pus was found in the cellular tissue in front of sternum; pus was likewise discovered in the anterior mediastinum, which communicated with the opening in the cyst through one of those small spaces behind the sternum where the diaphragm is deficient. Heart adherent to the pericardium by recent adhesions; valves healthy. Lungs congested; no pneumonia, but capillary bronchitis. Peritonæum healthy; kidneys coarse and congested; spleen normal. Liver perfectly healthy in structure, but the left lobe was almost completely obliterated by the hydatid cyst which seemed to have sprung up within the hepatic substance, and pushed outwards.

The cyst was nearly the size of a man's head, its walls thick and suppurating, and in the interior were contained an immense number of hydatids in a very offensive condition, varying in size from that of an orange to that of a millet-seed. Some of these were opaque, others translucent, but all flaccid. The hydatid cavity was situated in front of the stomach and lesser omentum, and extended to the right as far as the pylorus, the anterior wall of the viscus being attached to the posterior wall of the sac. The duodenum, hepatic duct, and vessels, were not implicated or disturbed, but the transverse colon was pushed down, and its upper wall firmly connected over a small extent with the inferior part of the cyst. The rectus and other abdominal muscles in front of the cyst were atrophied.

Our readers will at once perceive that the preceding case presents the peculiarity of an hydatid cyst springing up in the substance of the *left* lobe of the liver, whereas the general rule is, that such affections invade the *right* lobe. They will likewise ask themselves whether the fall on the left side of the chest, and the continual pressure on the epigastrium from gun-boring, had anything to do with the formation of the cyst. These were certainly exciting causes, but they had doubtless more power over a debiliated or intemperate subject than with people in the opposite circumstances. Had the disease not been of such long standing, and the patient in better condition, the evacuation of the parasites might have been followed by a contraction of the cyst and an ultimate cure, as such results have been obtained in cases upon record. As to the prophylaxis, we beg to refer to the following passage of Dr. Copland's Dictionary:

"We may consider as axioms in pathology and therapeutics that parasites form, increase, and multiply in proportion as the parent becomes weakened, and as the secretions and excretions accumulate or are retained, and that they diminish and ultimately disappear, with the full restoration of the vital power, and of the secreting and excreting functions of the animal which produced them."

MIDDLESEX HOSPITAL.

White Swelling of the Knee-joint, from Injury; Pulpy Fungus of the Synovial Membrane; Amputation; Recovery.

(Under the care of MR. CAMPBELL DE MORGAN.)

CERTAIN continental surgeons have maintained that white swelling is more common in England than in other parts of Europe; and Samuel Cooper was inclined to side with them, attributing the frequency of the disease to the great number of lymphatic temperaments met with in this country. It is not easy to decide whether this assertion is borne out by facts, but we must say that this affection is by no means rare in the hospitals of London, the knee-joint being the most often attacked. When the disease is firmly established, anchylosis seems the most favorable termination of the case, the surgeon endeavouring to obtain it in the position most likely to be eventually of service to the patient; but cases do occur, as will be clearly shown by the following instance of white swelling, where anchylosis is far from being a boon to the sufferer, and from which, indeed, he reaps more advantage by the removal of the limb. There can be no doubt that patients are occasionally lost by the reluctance of the surgeon to propose amputation, or the unwillingness of the former to part with the leg, circumstances of this sort requiring much nice discrimination and kind consideration on the part of the practitioner. In the following example we had frequent opportunities of seeing the patient, who for several months watched his flagging powers, until obliged to seek, for the preservation of life, that assistance which he had previously refused. We proceed to give an account of this instructive case.

Jonathan W——, twenty-eight years of age, a railway porter, was admitted into the Middlesex Hospital on the 12th of March, 1850, under the care of Mr. De Morgan, with disease of the left knee. The joint was about two inches larger in circumference than the other; the swelling, which was very marked on the sides of the joint, above the patella, being soft and elastic, without any indication of the presence of fluid. The patient suffered severely at times from pain of a rheumatic character, but had frequent and long remissions. The affected knee was not very tender: he could move it only slightly; but passive motion, unless extreme flexion or extension were attempted, did not give much pain. The skin was white and transparent, and it was believed that at this time the disease involved principally, if not entirely, the synovial membrane. The countenance of the patient was anxious and heavy, the tongue pale and flabby, but he did not complain of any feeling of illness. He had generally enjoyed good health, but for the last four years he thought he had not been quite as strong as formerly, which circumstance he attributed to his having come to live in town. Two years ago the metatarsal bone of the little toe of the right foot was removed, in consequence of a severe injury, caused by a heavy weight falling on it. From this operation the patient recovered quickly.

The present disease arose from the knee being squeezed between the buffers of two railway carriages. After the accident the patient continued to work for six weeks, when the knee began to swell; this was soon followed by deep aching pain, coming on at night, or when he over exerted himself.

The treatment adopted did little towards arresting the progress of the disease; in the course of about four months after his admission an abscess formed on the outside of the knee, and collections of matter soon appeared in other parts; these were freely opened as soon as formed, and in some cases the abscesses were found to communicate with the joint. The pains, however, now began to diminish, and his health decidedly improved; he gained flesh, his appetite was good, and he slept well, unless on the occasional recurrence of pain, which was in general readily subdued by a few leeches.

It was becoming clear to Mr. De Morgan that there was no chance of obtaining a serviceable limb for the patient, even if it could be saved, and amputation was proposed to him in July last, but he would not consent at that time, as he said he felt so well.

Towards the middle of November the patient began to suffer more than before, and more frequently; his health became impaired; he was restless and feverish at night, at times sweating profusely; the pulse was very quick, the appetite capricious, and the patient soon became himself desirous that the leg should be removed.

On Dec. 5th, 1850, (nearly nine months after admission,) the circular operation, about three inches above the patella, was performed by Mr. De Morgan. There were not many ligatures required. Three sutures were placed from side to side, but not drawn, and the stump was directed to be exposed to the air.

On examining the joint, it was found surrounded by abscesses, and the tissues about it were infiltrated with pus. The cavity contained a thick, brownish, offensive matter; and communicated in several places with the abscesses. The synovial membrane, where it connects the bones at the sides of the joint, was in many parts half an inch thick, pale brown, and of a pulpy appearance. The cartilages over the articulating surfaces of the femur and tibia were destroyed by ulceration, especially on the inner condyles, where they had entirely disappeared. The surfaces of bone were rough and carious, the crucial ligaments entire, but the semilunar cartilages were destroyed. The articulating surface of the patella, was, however, still covered with its cartilage. The substance of the bones was not diseased, but the femur, at its extremity, was somewhat expanded, and the cancellated structure perhaps more dense than natural.

The stump was dressed nine hours after the operation; the surface was clean, and no oozing had taken place.

On the eighth day, some hæmorrhage occurred, after a fit of coughing. It was evidently only produced by the tearing up of the granulations on the starting of the stump. The pulse was 130; the patient low and desponding about himself; the stump tense and painful on the outside, and some pain on the right and lower part of the chest was complained of, with tenderness in the intercostal spaces. Mr. De Morgan ordered a mustard poultice to the side, and ten grains of Dover's powder at night, with water dressing to stump.

The ligature of the principal artery came away on the twelfth day, and the patient has since progressed very favourably.

Mr. De Morgan subsequently made this case the subject of some clinical remarks, and after commenting on the nature of the case, he observed, that some months ago the proposal had been made to remove the limb, but that the patient had not consented to the operation. This proposal had not been made because there remained no chance of the limb being saved by the occurrence of anchylosis. Had the patient been able to obtain his livelihood by any sedentary occupation, it might have been desirable to have waited for a time, in the hope that a partial anchylosis would have taken place. But in the case of a labouring man, experience had satisfied him that an imperfectly anchylosed knee was a great evil rather than a benefit. It is only a few months since a man came under his care, begging to have his limb removed, in consequence of the continual interruption to work to which he was exposed, from the weakness of a partially anchylosed knee. This patient had been in the hospital, in the first instance, three years before, with all the indications of ulcerated cartilage. He went out with the knee stiff, and free from pain. After working for a short time, the joint became weak and painful, and he was obliged to seek admittance again into the hospital. Again he went out, and resumed his work for some time, but with the same ultimate result. At length he determined to part with the limb, and it was removed by Mr. De Morgan, who found that anchylosis had taken place in parts, but that the articulating surfaces of the outer condyle of the femur and tibia were free, rough, and spongy, and undergoing absorption, so that the leg had become displaced outwards.

Could this man have kept his leg at rest for a twelvemonth after it had first become stiff, there is no doubt that the anchylosis would have been complete. As it was, however, the greater part of three years was spent in an hospital, and in the end the patient was obliged to lose his leg.

The class of life and occupation of the patient must always form an element in considering the propriety of amputation of the leg or thigh. In the present case the disease advanced to so great an extent as to impair the patient's constitution, and a much longer delay would, in all probability, have been dangerous.

In speaking of the operation, Mr. De Morgan directed attention to the advantage derived after a circular amputation, from leaving the surface of the stump exposed to *the air*—altogether uncovered—for some hours. The effect of this, in preventing or arresting hæmorrhage from any small vessel, and thus securing a wound free from blood after dressing, makes it an useful mode of treatment in most operations where large surfaces are exposed. But in circular amputations there is another advantage in the contraction of the skin over the face of the stump, by which, in some cases, the extent of integument to be united is diminished by nearly a third. The benefit of the plan was sufficiently evident in this case, but he had often seen it much more marked.

This was not so important a point as the mode in which the stump is dressed, and Mr. De Morgan thought that sufficient stress was not, in general, laid upon the direction of the closure of the wound. Were all stumps to unite by the first intention, it would matter little in what direction the lips of the wound were adjusted. But as suppuration takes place in the majority of cases, it appeared to him that the same principle which guides surgeons in making openings into collections of matter should guide them equally, when the choice is open to them, in determining the direction of the closure of a wound beneath which suppuration is likely to occur. By putting up a stump with the wound directed horizontally, an impediment is offered to the free escape of matter as soon as it is formed; it collects in the lower flap, and unnecessary delay, or in case of foul suppuration, even danger may result. By bringing the flaps together from side to side, so as to form a vertical wound, the matter has no hindrance to its escape, and no place in which to lodge.

In the case under notice the matter became foul after the bleeding caused by the starting of the stump, but as it was able to discharge itself from the lower part of the wound, a healthy condition was very soon re-established, much sooner than would have been the case had there been a bag below the level of the wound in which the matter could have collected.

The facility of dressing is also much greater when strapping has to be placed from side to side, than when it must be brought from the lower to the upper surface.

With regard to an objection, which has been made to this mode of dressing, that the bone is likely to protrude through the upper angle of the wound, Mr. De Morgan said that he had never found it take place in the many cases in which he had seen this plan followed in the hands of others, nor had it occurred in his own practice.

CHARING-CROSS HOSPITAL.

Popliteal Aneurism cured by the Deligation of the Femoral Artery.

(Under the care of Mr. Avery.)

As different methods of curing external aneurisms at the present time are strenuously advocated by very competent surgeons, our readers may well imagine that we follow with peculiar interest the cases of this affection which occur in the hospitals of London. Fully imbued with the conviction that a sufficiently large number of facts will materially tend to set the question at rest, we shall endeavour to acquaint our readers with all those which are brought before us, without leaning to either of the lines of treatment which are so vehemently attacked and defended.

W. H., aged thirty years, is a porter by trade, of spare make, dark complexion, and unmarried. He has generally enjoyed good health; worked hard; was in the habit of carrying heavy loads on his head, and had likewise a great deal of walking. The patient's habits have been pretty temperate; and he has always been able to procure a good supply of wholesome food. No disease of bloodvessels has been known in his family, but he has met with several accidents: when a child he lost the left eye from a blow; some time ago he had his skull fractured; and has lately had an ulcerated foot. The patient's legs for about the last three years used to swell, and again return to their normal size; but this did not give him much uneasiness. About six weeks before admission, he began to perceive a pulsation in his left ham before he was aware of any swelling, or had any pain in that region, the beating being at first very faint. He then applied as an out-patient to Mr. Avery, who advised him to seek for admission into the hospital, but the patient having some business to attend to, delayed presenting himself until Nov. 21, 1850.

On being examined it was found that the tumour had been increasing, and was the size of a hen's egg; the skin covering it was not discoloured; and there was no pain in the aneurismal swelling. The pulsations were powerful, synchronous with those of the heart, and pressure on the femoral artery suspended them entirely. The only pain the patient complained of was in the tumour itself, when it was being handled.

Mr. Avery, after having carefully weighed all the merits of the case, and the advantages and drawbacks of the various modes of treatment which have been proposed, resolved to tie the femoral artery, and the operation was performed in the usual way in Scarpa's space on the 27th of November, the patient being under the influence of chloroform. By the advice of Mr. Hodgson, three small threads twisted together were used in this instance. The pulsation in the tumour ceased immediately, and the patient was carefully removed, the accustomed precaution as to the temperature of the limb being immediately taken.

No untoward symptoms presented themselves for the first few days; the leg and foot retained a very satisfactory temperature, though they were somewhat cold; nor was the pain in the limb very severe. On the 11th of December, fourteen days after the operation, the wound looked very well, and was almost cicatrized; the ligature came away on that day, and the patient was in a very satisfactory state, though he complained of some pain and a pricking sensation in the foot when the latter became warm. The tumour had become very hard, no pulsation had returned in it, and its size was much diminished. The general health was extremely good. The patient was soon allowed to get up; his leg being, however, well wrapped up in flannel, and he was enjoined to be careful with the limb.

About five weeks after the operation he complained of a curious sensation each time he attempted to walk—viz., great soreness at the sole of the foot, and between the toes; this pain was sometimes so severe, as to make him cry out under it. There was no unpleasant feeling nor any stiffness in the ham, but the leg and foot were still of a lower temperature on the affected than on the sound side. The appetite was good, and the patient slept well.

On the 21st of January, however, seven weeks after the operation, a few venous twigs in the upper part of the cicatrix gave way, and caused a little alarm, but pressure soon arrested the hæmorrhage. The graduated compress was removed four days afterwards; no fresh bleeding occurred, and powdered matico was strewed on the wound, which was again secured by compress and bandage. No unpleasant symptoms have since interrupted the patient's convalescence, and he will before long be discharged.

In thus recording a case of popliteal aneurism cured by deligation of the femoral artery, we are not unaware that, according to Mr. B. Philips's table, about fifty per cent. of the patients subjected to the Hunterian operation die in consequence of the use of the knife, such results being highly in favour of compression, especially when the statistics of the latter method are contrasted with those of the ligature, as has been done by Mr. Miller, in his "Principles of Surgery." It would appear that, "in 1846, twenty-nine cases of aneurism had been treated by pressure, six femoral, and twenty-three popliteal. In *twenty-five* of these cases cure was complete, and in all respects satisfactory. In none was there any accident to life or limb." Every one knows that there is great fallacy in statistical tables; but such results as the preceding certainly call for attention, in spite of the uncertainty of statistical accounts.

We may perhaps be permitted, in conclusion, to quote a few lines of Mr. Miller's book, which bear upon this subject, and are remarkable for moderation and good sense:—"That pressure is to supersede ligature altogether in the treatment of aneurism no one can imagine. Some patients by idiosyncrasy may be intolerant even of such modified pressure as is required; and to some aneurisms the application of it is impracticable. There seems every reason to anticipate that the result of experience will determine that some aneurisms are unsuitable for either deligation or pressure; absolutely incurable by reason of universal and extreme arterial degeneration; and that, of the curable cases, some are suited for pressure, others for deligation; just as, in stone, patients are not indiscriminately subjected to lithotomy as in former years, but while some are cut, others have the calculus removed by lithotripsy; neither operation being exclusively followed in the practice of any wise and thoroughly accomplished surgeon."

Excision of the Ankle-joint.

(Under the care of Mr. Hancock.)

Excision of joints is getting more and more in favour with metropolitan surgeons. On the 17th inst. an operation of this kind was performed by Mr. Hancock upon a boy about eight years of age. The patient was labouring under scrofulous disease of the ankle-joint of several months' standing; when admitted, abscesses, and fistulous tracts had not yet formed, and attempts were made, by various remedies, to obtain a healthy action in the bones entering into the above-named articulation. These were, however, unsuccessful; suppuration, with its train of symptoms, occurred, and as surgical interference was plainly called for, Mr. Hancock resolved, with the concurrence of his colleague, Mr. Avery, to save the foot, and remove only such portions of bone in the joint which were in a diseased state. It was considered that the morbid action was principally confined to the ankle, and Mr. Hancock, therefore, decided upon removing the lower end of the tibia and fibula, and the pulley-like surface of the astragalus.

The boy was placed under the influence of chloroform by means of a simple piece of lint, sprinkled with the anæsthetic agent, being held at a little distance from the face, and the effect was kept up during the whole of the operation by judicious management. As there were some doubts as to the actual extent of the disease, Mr. Hancock, after having made an incision half way across the instep, carried the same downwards over the outer malleolus. The latter having been exposed, and somewhat loosened, it was possible to ascertain that the caries was really circumscribed, as stated above. The incisions were exactly skin deep, as it was a matter of importance to save the fascia, the sheaths of the extensor tendons, and the vessels and nerves coursing over the instep.

Mr. Hancock now proceeded to divide the ligaments connecting the external malleolus with the surrounding bones, and removed with the forceps about three-quarters of an inch of that process. A longitudinal incision was then likewise made over the internal malleolus, in continuation with the original transverse cut over the instep. Here Mr. Hancock had to divide the internal lateral ligament, the tibialis porticus, and flexor digitorum longus, after having carefully kept the vessels and nerves out of harm's way. The lower extremity of the tibia being thus disconnected from its attachments, the foot was forcibly everted, and the articulating surface of the tibia thus made to slide from the pulley of the astragalus, and to protrude inwards. At this stage of the operation, the soft parts were the only remaining bond of union between the foot and the leg. Mr. Hancock having directed those parts to be protected with a spatula, proceeded to saw off the lower end of the tibia, and after this was accomplished, a smaller saw was horizontally and anteriorly applied to the superior half of the astragalus, and the pulley-like surface removed.

Thus was the ankle-joint perfectly excised without any injury being inflicted on the vessels and nerves, which both anteriorly and posteriorly proceed from the leg to the foot—a precaution of immense importance to the success of the case. Mr. Hancock stated to the pupils, after having described to them the different steps of the operation, that he fully expected that his patient would do well. We shall be very happy to acquaint our readers with the further progress of this case, in which we feel especially interested, as we had an opportunity of seeing, a few days ago, the patient upon whom Mr. T. H. Wakley operated, now about three years since, in a somewhat similar manner. It will be recollected that in this instance the operation was of an analogous description to the one just performed by Mr. Hancock, with this difference, that in Mr. Wakley's case it was necessary to remove the whole of the os calcis and astragalus, as well as the lower ends of the tibia and fibula. The patient, in the latter case, has now acquired a remarkable control and mobility of foot, and it must be owned that this circumstance is extremely encouraging as to the ultimate result of Mr. Hancock's case, as in his patient part of of the astragalus is left, and its connection with the scaphoid and os calcis undisturbed.

Cystic Tumour; Disease of the Superior Maxilla.

(Under the care of Mr. Avery.)

On the same day, Mr. Avery removed a cystic tumour from the breast of a woman, whose history is shortly as follows:—The patient is forty-nine years of age, and very stout; she married only three years since, has never borne children, and ceased to menstruate at forty-six. About twelve years ago a tumour of nine months' growth was removed from her right breast; it was, according to the patient's statements, of a cystic nature, and had sprung up three days after the breast had been rather severely knocked by a child. (Sir B. Brodie's opinion, that tumours of this nature mostly arise in unmarried females, is borne out in this instance.) Within the last five months the second growth has appeared, exactly under the faint linear cicatrix left by the first operation; it is about the size of a large orange, resisting, though not of a scirrhous hardness; moveable, or at least freely moving with the gland; painless, and unconnected with the integuments.

The patient certainly appears subject to abnormal growths in the mamma, as the opposite breast had been somewhat similarly affected within the last twelvemonth, but leeches and mercurial ointment had dispelled the threatening growth. This tendency in the virgin breast is doubtless of a very remarkable nature, and might perhaps be looked upon as the result of the powerful activity of a part intended for healthy functions, which it has no opportunity of performing. May not many affections of the uterus be thus explained? The patient has always enjoyed excellent health, and accumulated a considerable quantity of adipose matter.

This woman, by some misunderstanding, had been sent to Mr. Avery, as affected with a scirrhous tumour of the breast, recurring ten years after the extirpation of a similar growth. She was very carefully examined by Mr. Avery, as such a circumstance would be somewhat unusual, for it is rare that truly scirrhous tumours succeed one another; the second being more generally of the encephaloid kind. The present tumour was, however, considered as non-malignant, by taking the symptoms above described into consideration. The doubt this raised will explain the following precautions which were taken before the operation was performed.

Mr. Avery, after the patient had been placed under the influence of chloroform, made an explanatory incision into the tumour so as to ascertain its exact nature before proceeding further; and as it was found not to be of a malignant nature, the tumour, and not the whole gland, was dissected out. The growth proved to be of the cystic kind, with only two or three small cysts still containing fluid, the remaining ones having been filled up by the resisting fibrinous matter which formed the principal portion of the tumour. On a section a vast number of small cysts capable of containing a pea, and some much larger and smaller, were noticed over a great portion of the growth.

The patient was very much shaken by the effects of the chloroform; she had severe fits of retching, and as she is very corpulent, some apprehension was felt; but she gradually recovered, and was removed in good condition. If the statement of the patient as to the cystic nature of the first tumour can be credited, it would appear that such growths are liable to recur, contrary to the opinion generally held on this subject.

Mr. Avery discharged a few days ago, from the clinical ward, a woman sixty-four years of age who had applied for a diseased condition of the superior maxilla on the right side. The symptoms were only of nine months' standing, and consisted of severe pain in the jaw, an enlargement of the bone towards the face and into the mouth, with a very offensive purulent discharge from the nostril. The right half of the hard palate was projecting downwards, and yielded to the finger a fluctuating sensation. Mr. Avery introduced a fine trochar into the swelling in order to ascertain whether it contained fluid, when the canula yielded some blood. Under these circumstances, Mr. Avery thought that it would not be prudent to propose any further surgical interference, and sent the patient to her friends. We are anxious to mention this case, as we consider that it is as requisite, in the history of modern surgery, that not only operations should be recorded, but likewise those instances where the removal of an important bone might be attempted, and the surgeon has abstained.

UNIVERSITY COLLEGE HOSPITAL.

Hospital Erysipelas of Peculiar Type.

(Under the care of Mr. Erichsen.)

We had recently an epidemic of erysipelas which reigned at St. Thomas's Hospital; it is now incumbent upon us to draw attention to the same infectious disease which has attacked almost all the patients in one of Mr. Erichsen's ward at the University College Hospital. It will be seen by the sequel that the poisonous principles which exerted their baneful influence in the latter instance, were of a peculiar kind, and sufficiently energetic to occasion great disturbance of the whole economy; and it happened in this epidemic (as is noticed in almost all others) that the old or debilitated subjects could not resist the shock, and soon sunk under the effects of the virus. Mr. Erichsen very properly insisted upon the importance of preventive measures, for it must be confessed that we are not richly provided as regards curative means.

This outbreak of erysipelas occurred a few weeks ago; it presented many points of interest in the mode of origin, the type which it assumed, and the fatality; and now that the pestilence has passed away, it may not be uninteresting to relate a few of the particulars respecting it, which we have gathered from a clinical lecture delivered by Mr. Erichsen on the subject.

University College Hospital had been extremely healthy, and quite free from any erysipelas originating within its walls for some considerable time. The few sporadic cases now and then admitted having been placed in private wards, no spread of the disease took place.

Case 1.—On the 15th of January a man was sent from the Islington Workhouse, said to be labouring under "mortification of the legs." He was admitted on that day into a Brundett ward. At the visit at two P.M., Mr. Erichsen, finding it to be a case of gangrenous erysipelas of the worst form, directed the patient to be at once removed to a separate room, in a distant part of the building, and ordered the chlorides to be plentifully used in the ward from whence he had been removed. This man, after suffering from profuse diarrhœa and frequent vomiting, died of broncho-pneumonia in the course of a few days.

Case 2.—In the bed adjoining the one into which the above-named patient had been admitted for two hours, lay a man with iliac and lumbar abscess, from whence a portion of necrosed ilium had been removed by Mr. Erichsen a few weeks previously. The report on the 15th of January was, that the wound had nearly healed, and was discharging favourably. On the 17th the patient was seized with rigors, nausea, vomiting, and diarrhœa; on the 23rd, erysipelas made its appearance on the back, and spread upwards. These symptoms continued, the vomiting being especially frequent and distressing, causing him to refuse all nutriment, and he died on the 28th in an exhausted state.

On Jan. 22nd, five operations were performed by Mr. Erichsen. Of these, four were seized with erysipelas; one only, a case of fistula in ano, escaping. The cases were as follow:—

Case 3.—Removal of three outer metatarsal bones of right foot in a man of fifty-nine years. Operation on the 22nd; erysipelas of leg, with vomiting and diarrhœa, on the 23rd; diarrhœa and vomiting continuing after cessation of the erysipelas. Died on Feb. 2nd.

Case 4.—Amputation of the little finger and head of metacarpal bone in a young man. Nausea, vomiting, and diarrhœa on the 30th: erysipelas of head on the 31st; abscesses in the palm of the hand. Recovery.

Case 5.—Necrosis of tibia in a boy, aged ten years. Removal of sequestrum on the 22nd; erysipelas of the leg, with some gastro-intestinal symptoms, on the 25th: abscesses. Recovery.

Case 6.—Removal of very large ulcerated encysted tumours from the scalp of a woman, aged sixty-eight. Rigors and erysipelas on the 26th; death, with gastro-intestinal irritation, on Feb. 3rd.

Case 7.—Strangulated femoral hernia in a man of sixty-six years. Operation on Jan. 24th; went on perfectly well until the 31st, when vomiting and diarrhœa came on, with obscure abdominal hardness and tympanitis. These symptoms continued; he fell into a typhoid state, and died on Feb. 5th. On examination, considerable vascular injection of the mucous membrane of the intestines was found at various parts, as well as extensive diffuse peritonitis, with fibrinous deposits, and a considerable quantity of pus.

Case 8.—Stricture of the urethra with perineal fistula. Very severe attack of diarrhœa and vomiting, but no erysipelatous blush on the skin. Recovery.

Case 9.—Necrosis of femur in a boy. Erysipelatous redness around the fistulous apertures, with sickness. Recovery.

Case 10.—Infiltration of urine into the perineum and scrotum. Severe attack of diarrhœa and vomiting, but no cutaneous erysipelas. Recovery.

Case 11.—Amputation of the leg. Diarrhœa and sloughing of stump. Recovery.

Case 12.—Excision of elbow-joint. Vomiting and gastric disturbance. Recovery.

Mr. Erichsen observed that this series of cases presented many points full of interest to the hospital surgeon. In the first place, there can be no doubt that they all originated in the same infection from the case of gangrenous erysipelas admitted on January 15th. This would appear from the fact of no erysipelas having previously arisen within the hospital; the first patient affected being the one lying in the adjoining bed to that in which the original case was temporarily placed; and the erysipelas and concomitant diarrhœa (with the exception of the case of tumour of the scalp) having been confined exclusively to Brundrett ward, in which the disease originated.

Another point of interest was, that all the *recent* wounds exposed to the morbific influence became affected, the only exception being a case of fistula in ano, which was placed in a private ward. The suppurating wounds, of which there were several in the same ward, mostly escaped.

The type of the disease was peculiar. In all the cases, without exception, including the original one, there were prominent symptoms of gastro-intestinal irritation. The disease was ushered in, in all cases, by nausea and vomiting, and diarrhœa either preceded or accompanied these symptoms. This diarrhœa was profuse, consisting of very liquid, bilious stools, voided without pain or griping. The tongue was uniformly coated with a thick yellowish or brownish fur; the edge and tip red and clean, but becoming dry over the centre and root as the disease advanced. The vomiting was in many instances a well-marked and distressing symptom, preventing the patient from retaining any sustenance on the stomach, and rapidly tending to exhaust him. The pyrexia accompanying this erysipelas speedily assumed the atonic type. These symptoms which so peculiarly and strikingly marked the evolution of the cutaneous erysipelas, occurred in several instances without any appearance of inflammatory action on the skin, presenting, however, precisely the same character as when associated with this local affection. To this fact Mr. Erichsen particularly drew attention, as bearing upon the constitutional origin of erysipelas, and tending to show that that disease, when traumatic, is not, properly speaking, a cutaneous affection, but a peculiar form of surgical fever, which is usually, but not necessarily, complicated with inflammation of the injured integuments; and that we may have the same disease as a constitutional affection, assuming the same type, and associated with the same gastro-intestinal complications, but in no way manifesting itself by any external or cutaneous inflammation.

In the case were enteritis and peritonitis occurred a week after the operation for hernia, the same constitutional disturbance, the same incessant vomiting, diarrhœa, and furred tongue, succeeded the extensive inflammation of the serous membrane.

Mr. Erichsen, in speaking of the treatment of this affection, adverted especially to the importance of preventive measures for arresting the spread of bad forms of erysipelas, when once they have occurred in an hospital. The disease is decidedly infectious; hence Mr. Erichsen advises that those first infected should be placed in private wards apart from the rest of the patients; that the chlorides should be freely used, and that one dresser and nurse should, if possible, be appointed to attend solely on the erysipelatous cases.

With regard to curative treatment in the cases described, it was found that the compound chalk powder and opium, the compound kino powder and the pernitrate of iron, checked the diarrhœa most effectually; that the stimulants were required early in the disease, and that brandy freely given, either alone or with arrow-root, or beef-tea, or in the shape of the brandy-and-egg mixture of the Pharmacopœia, was of more use than any of the mere medicinal stimuli.

The cases which proved fatal appeared to sink under the exhaustion produced by the diarrhœa and incessant vomiting, which could not be checked by any of the agents usually of service in such cases. The patients who died were all old, except Case 2, who had been exhausted by previous suppuration and hectic. The younger and more healthy patients all did well; and as no case has occurred since first week in February, it is probable that the epidemic has entirely passed away from the wards of the hospital.

Congenital absence of the Rectum.

(Under the care of Mr. Erichsen.)

Imperforate anus, congenital absence of the rectum and various imperfections of the genito-urinary organs are now so well understood, that it is hardly necessary to warn accoucheurs as to the necessity of examining infants with respect to malformations, before they are consigned to the exclusive care of the nurse. Nor do practitioners now-a-days forget to be on their guard, when imperfections are discovered, with reference to the prognosis which is immediately requested by the parents. He who would venture, on mere examination of external parts, to give a decided opinion as to the result, would wilfully endanger his reputation; as anal and rectal malformations present great variety. Amussat's classification is so simple and practical that it can easily be borne in mind. He makes but five divisions. 1. The anus preternaturally narrowed. 2. Anus closed by a membrane. 3. Rectum intercepted by a single septum. 4. Anus imperforate, (the most common.) 5. Rectum opening into some other organ.* To these might be added:—6. Rectum ending in a pouch very high up; and 7. Total absence of the rectum. Of the latter imperfection we lately saw an example in Mr. Erichsen's wards, and we were somewhat anxious to follow the case, as it is known, from papers published by Mr. Erichsen in this journal, that he had had frequent opportunities of operating for such malformations. From Mr. Watkin Williams's notes, house-surgeon to the hospital, we gather the following facts:—

A male-child, aged eighty hours, was brought to the hospital, the nurse having observed that it passed no motions, and had no aperture at the anus. The little patient, on being examined, was found to be a very small child; a raphé extended along the median line of the perinæum, and there was no aperture whatsoever on the site of the usual orifice of the anus, nor could any bulging or fluctuation be felt.

As the child was already eighty hours old, Mr. Erichsen lost no time, but at once proceeded to operate. The infant having been placed in the position for the operation of lithotomy, Mr. Erichsen made an incision of an inch in length, terminating posteriorly at the end of the coccyx; the finger was introduced through the wound, but no bowel could be felt. The incision was then cautiously carried to the depth of an inch and a half in the median line, Mr. Erichsen taking the curve of the sacrum and coccyx for his guide. The bowel was now felt on a level with the brim of the pelvis, and carefully opened into, when a quantity of dark, thick meconium and flatus escaped. The opening in the bowel was then enlarged with a probe-pointed bistoury, and a plug of wood, wrapped with lint, introduced into the wound, in order to arrest the rather free oozing of blood from the cut surfaces. This plug was fastened by two threads, attached to a belly-band, and one drop of laudanum was given to the child. Between one and two ounces of blood was lost in the operation.

About six hours after the operation, the plug was removed, and a portion of a gum catheter introduced into the bowel, so that the excrement might pass through it. The catheter was held by strings to the belly-band, and a wide tape was also passed round the instrument, and attached at each side to the above-named waistband, so as to cover the posterior part of the wound, and prevent the excrement from irritating it.

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* Of this malformation the following is a very extraordinary instance:—The termination of the rectum was closed, but to it was attached an appendix which ran over the prostate gland along the urethra, and opened by a small aperture at the side of the frænum præputii. The child was saved by an opening being made in the usual locality of the anal orifice. Collezione d'osserv. et rifl di Chirurg. t. i. p. 18, Roma. Anno 6.

The child lost much blood between the time of the operation and the evening, but it was difficult to distinguish between coagulated blood and meconium mixed with clots. On the next day the patient was going on very well, but the little creature would not take any nourishment. On the third day the child was still doing pretty well, and was very quiet, but it soon grew weaker, and died on the fourth day.

The post-mortem examination elicited the following appearances:—The cæcum was small; the transverse colon very long, and presenting a turn in its centre; the descending colon ran towards the umbilicus, then curved into the left lumbar region, and again descended, to terminate in an expanded cul-de-sac, which was attached to the brim of the pelvis, and into which the opening had been made. This terminal portion of the descending colon was increased in diameter to about double of the remaining large intestine.

Mr. Erichsen's operation was so far successful, that he succeeded in finding the bowel, and evacuating the meconium; and it may remain a question, whether the child died of original want of power, hæmorrhage, or irritation from effused excreta. It is well known that M. Amussat, of Paris, after having lost several cases from the latter causes, thought of bringing down the bowel to the artificially-made anal orifice, and fix it there by sutures, in order to afford the meconium a mucus canal towards the exterior, and prevent the inflammation and formation of abscesses, consequent upon the effusion of the fæcal matter in the pelvis. He has, if we remember well, put one or more successful cases of this kind upon record.

But the difficulty will always be, the finding of the bowel in the cavity of the pelvis; and Mr. Erichsen was particularly fortunate in meeting with it, the pouch being situated so high up as the brim of the pelvis. Liston was almost over-cautious concerning these operations; for he says, p. 573 of his "Practical Surgery,"—

"When the rectum terminates at the top of the sacrum, or somewhere between that and the natural situation of the anus, an attempt may be made to reach the cul-de-sac by careful incisions, guided by the finger; but the narrow space does not admit of any deep exploration: the situation of the bladder and of the vessels of the pelvis is not to be forgotten; the plunge of a trocar at random is certainly not warrantable."

J. L. Petit likewise deprecates the puncture of the bowel with a trocar, when the pouch is two inches above the artificially-made anal orifice, as he considers that the effusion of meconium, and the subsequent absence of the sphincter, would in the first case cause death, and in the second, a continual escape of fæces. Should M. Amussat's operation get into favour, some of these drawbacks may be provided against, and a few of the unfortunate little creatures be restored to a normal state.

TAUNTON AND SOMERSET HOSPITAL.

Successful Case of Ovariotomy.

(*Reported by* C. H. Cornish, Esq., F.R.C.S.E., Surgeon to the Hospital.)

Lucy B——, aged nineteen, a lace-mender, was admitted into the hospital, under Dr. Woodforde, August 25th, 1849, and subsequently transferred to my care. Her stature five feet five inches; conformation slight, but well-proportioned; temperament sanguine. She stated her health to have been good to her sixteenth year, when she suffered from general debility, pain in the left hypochondrium, and palpitation of the heart which was attributed to her rapid growth. The catamenial discharge appeared at the age of fifteen, was regular, moderate in quantity, and lasting three days, until she was seventeen, when it was suppressed for six months. On its reappearance it occurred every month, and was increased in quantity, lasting from five to seven days.

In September, 1848, whilst confined to bed by a slight febrile attack, she first became aware of a tumour, about the size of an orange, a little to the right of, and below, the umbilicus, not painful on pressure, and apparently unconnected with the existing illness; it gradually increased in size, but caused no inconvenience except in the act of stooping.

When admitted to the hospital, her appearance was that of a woman in the sixth month of pregnancy, and the suspicion that such was the case had been a source of anxiety to her friends. She had consulted several surgeons, and had been subjected to some slight treatment.

On examination, a firm tumour was distinctly perceptible, extending from the right iliac region obliquely to the left hypochondrium, giving the sensation of solidity. It was freely movable in every direction, its form round but uneven, there being a slight projection on its left side; very indistinct fluctuation could be detected, and auscultation elicited no sound. The abdominal circumference over the tumour was thirty-three inches. On examination per vaginam, the hymen was found perfect; the cervix uteri small, and rather high; the os circular; raising or depressing the tumour did not affect the position of the uterus.

The girl having been informed of the nature of her disease, and that an operation would be necessary for its relief, the danger of which was fully explained to her, on the 29th of September, 1849, she was discharged, for the purpose of consulting her friends on the subject.

On the 4th of January, 1850, she was again admitted to the hospital. The measurement of the abdomen at the umbilicus was now thirty-four inches and five-eighths; the increase was becoming more and more rapid, and her appearance was that of a person at the full period of gestation. The tumour was still freely movable in every direction, and no adhesion could be detected by the most careful examination; it occupied almost the whole of the anterior of the abdominal cavity, resting on the pelvis, from which it could be pushed up a hand's breadth. Percussion gave a dull sound over the whole surface of the tumour; but on pushing it aside, the clear sound of the intestines could be traced all around it, except in the right iliac region, thus pointing out the right ovary as the seat of the tumour. The uterus remained in its natural state and position, and was still unaffected by movement of the tumour. Fluctuation had become more distinct, but unequally so, leading to the conclusion that the tumour was a multilocular cyst, and that a portion of it was solid.

The girl had two attacks of pain in the abdomen, consequent on unaccustomed exertion, one of which subsided the following day, but the second was more severe; it occurred soon after her return to the hospital, and required the application of leeches, and confinement to bed for three days.

On the 25th of January, 1850, a consultation of the hospital staff was held on the case; the operation unanimously decided on, and fixed to take place after the next catamenial period; but as the menses appeared later than was expected, and lasted the unusual period of nine days, it was postponed to the 19th of February. She was restricted to a milk diet from the 8th of February. On the eighth of February she took six drachms of castor oil, and her diet was reduced to milk-and-water only.

On the 19th of February I proceeded to operate, in the presence of the staff of the hospital and a large number of medical men from the neighbourhood. The patient was kept under the influence of chloroform throughout the operation. The preliminary steps were as follow:—In a well-ventilated ward was placed a large Arnott's stove, its flue entering the chimney near the ceiling; on the usual fire of the ward was placed a large boiler with a metallic pipe conveying steam constantly into the room. By these means a moist atmosphere was maintained at a temperature of 85°. On a high bed was laid a broad many-tailed bandage, on which the patient was placed. Having made an incision through the abdominal parietes, ten inches in length, extending from about four inches above the umbilicus to the pubes, and avoiding the umbilicus by keeping on its right side, the anterior part of the tumour was exposed. On thrusting a trocar into it, a large quantity of thick, viscid, greenish brown fluid escaped. Two slight adhesions between the omentum and the anterior surface of the tumour were divided; the necessary handling of the omentum produced convulsive efforts to vomit, during one of which the tumour was thrown from the abdominal cavity. The operation was then completed, by tying the pedicle at two points, (about half an inch apart;) by transfixing it with needles, armed with double ligatures of hempen twine, capable of sustaining a weight of fourteen pounds. The pedicle was then divided above the last ligature; two small vessels of the omentum were secured. The left ovary, on examination, was found to be in a natural state. The edges of the wound were accurately adjusted by six sutures, inserted at points which I had marked, previously to the operation, with tincture of iodine, (as in Mr. Crouch's case,) strips of adhesive plaster being placed in the intervals, over which a compress of folded lint was secured by the broad many-tailed bandage. The hæmorrhage was very slight, not exceeding four ounces. The removal of the tumour occupied fourteen minutes.

In the evening after the operation she slept a little. The pulse had risen to 120, but she was quite free from pain or uneasiness, except a little in the right iliac region, and in the line of the incision; had passed some urine; no tendency to vomiting or shivering. She was allowed a pint of toast water every twelve hours; the temperature of the room was maintained between 75° and 80°.

On the following day (Feb 20th) I found her in the same tranquil state, with slight tenderness only in the right iliac region; skin moist; tongue clean and moist; pulse 120; some urine had been passed, and she had slept at intervals.

Feb. 21st and 22nd.—She was quite free from pain, complained only of distention, and the heat of the room; the pulse had fallen to 102; bowels had been slightly moved. The allowance of toast-water was increased to a pint and a half during the twelve hours.

On the 23rd of February the dressings were changed, and the whole of the wound was found healed by the first intention, excepting an interval of about an inch and a half where the ligatures issued. Five of the sutures were removed; no pain or tympanitis. The diet was increased by the addition of two ounces of thick gruel, and four ounces of milk, daily. The temperature of the ward was directed to be lowered gradually.

From this time her convalescence proceeded without a check. The ligatures on the omentum were both removed by the 4th of March; those on the pedicle of the tumour did not separate till March 11. By the 13th of April the wound was entirely healed; she was able to sit up, and walk about the ward. On April the 14th the catamenia appeared naturally, and lasted till the 18th, and on the 27th of April she was discharged perfectly well. Since that time I have repeatedly seen her in good health. She is now living at Taunton as child's maid in a gentleman's family.

The tumour was ovoid in form, and consisted chiefly of one large cyst, subdivided by several imperfect septæ, in the free margins of which were numerous other cysts of various sizes, three or four being as large as an orange, others as small as peas, in number at least an hundred; their contents varied considerably in consistence and colour. The specific gravity of the fluid in the larger cyst was 1023; it was highly albuminous, the whole becoming coagulated by heat. Four rather large artéries passed up the pedicle to supply the tumour.

The tumour weighed seven pounds and a half, of which five pounds were fluid. The dried preparation measures twenty-two inches and a half in circumference, eleven inches in length, ten inches in breadth, and five inches in thickness. My reason for not publishing this case earlier is, that I was desirous to see if, and to what extent, the girl's general health might suffer from the operation. Nearly eight months having elapsed since it was performed, and no ill results having manifested themselves, I consider that this may be deemed a decidedly successful instance of this important operation.

To my colleague, Dr. Woodforde, I am much indebted for his accurate diagnosis and history of the case prior to the operation.

SURREY DISPENSARY.

Fistula in Ano in a Child three years and a half old.

(Under the care of Mr. Forster.)

We have had several opportunities of pointing out how interesting a branch of surgery is that which takes cognizance of the ailments of children, and we ventured to state that the surgical diseases of childhood were important enough, and sufficiently distinct from those of adult life, to warrant the special attention of an experienced surgeon. The more we come in contact with the practice of hospitals, the more we are convinced that our idea is worthy of some attention. There are certain affections which generally come under the care of the surgeon, to which it is not exactly known whether children are liable or not; and others, with which they are often afflicted, but which are treated on general principles, modified of course according to circumstances and the judgment of the practitioner. Could not certain rules be laid down for the treatment of infantile surgical ailments, as has been done with the medical affections of the same class of patients? These rules every practitioner carries about him in his head, but they are yet awaiting system and arrangement by a good and faithful hand.

We beg to put upon record a case of an infantile surgical affection, which, as far as we are able to judgé, has not been frequently met with, and we hope thereby to be making an interesting addition to the facts mentioned above. The case is one of fistula in ano in a very young child, and runs as follows:—

The patient is a stout, healthy-looking boy, three years and a half old, who was brought to Mr. Forster at the Surrey Dispensary with a small opening on the left side of the anus, about one inch distant from the anal orifice. The child's parents are healthy, and previous to this opening forming, he had not suffered from any infantile disorder, though he has had measles and hooping-cough since. The mother stated that about fourteen months ago (the child being then only *twenty-eight months* old) she found, without any premonitory symptom, a hard lump forming in the left ischio rectal fossa, and a small pimple, which, after swelling considerably, broke and discharged a tablespoonful of pus. There was no constitutional disturbance, and the abscess to all appearance healed shortly afterwards; but the scab which had formed fell off. more discharge came away, and from that time until the present the opening has been sometimes closed, and at others discharging profusely. Several applications were advised, but the true nature of the affection seems scarcely to have been suspected, judging from the means employed for its cure.

Mr. Forster passed a small probe very readily along the track of a sinus, the walls of which were dense and callous, up into the cavity of the rectum. The sinus seemed to communicate freely with the intestine, as the probe entered the latter without any force being used. Upon introducing the finger into the anus, the end of the probe was easily felt and brought out, and Mr. Forster divided the sphincter and intermediate parts, thus completely freeing the probe.

The hæmorrhage was very slight; a piece of lint was put into the wound in the usual manner, and the child had two motions before sufficient suppuration to free the lint had taken place. Mr. Forster is not in the habit of using any applications after the lint; he merely takes care that the parts be kept clean, and considers the practice of passing a piece of lint daily into the wound quite unnecessary, unless the latter be very sluggish. The wound healed very rapidly, as might be expected in a patient of such tender years.

We leave this case to the consideration of our readers; similar ones may perhaps have occurred here and there in practice, but we do not recollect having heard or read of fistula in ano in so young a child.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

Congenital Absence of a Portion of the Anterior Lobe of the Brain, and of the Left Olfactory Bulb.

(Reported by William Hewett, M.R.C.S. & L.S.A.)

A. E——, aged forty-one, a tall, well-made woman, a widow, died in the Hospital for Consumption, at Brompton, on Oct. 4, 1850.

On opening the cranium, I was at once struck with the singular appearance of the brain, which presented a remarkable deficiency of the triangular orbital surface of the left anterior lobe. The whole of the dura mater was much thickened, but there were no traces of any recent congestion of the meninges.

The adult female brain is said to average forty-four ounces, whilst the relative weight compared with the body is as 1 to 36.46; but in this case the absolute weight was only thirty-eight ounces, and the relative weight only as 1 to 44. It must be remembered, too, that the individual in question had been reduced by a wasting disease to a state of extreme emaciation, so that in health the disproportion must have been still more striking; and yet her age was that at which the adult brain attains its *maximum* weight.

The deficiency of cerebrum consisted in an entire absence, not only of the left supra-orbital convolutions, but also of the convolution of the Sylvian fissure, and of the secondary gyri extending therefrom. The marginal convolution of the longitudinal fissure was present, projecting in bold relief; but the most interesting point was the entire absence of the left olfactory bulb, which should occupy the sulcus on its outer side, and which sulcus in this case was necessarily wanting. Not only was the bulb absent, but there was no trace of the long white root across the Sylvian fissure, and which on the opposite hemisphere was unusually developed.

This deficiency of cerebrum was evidently congenital, as the smooth surface of the depression caused by the absence of the convolutions was covered by the usual membranes, and, moreover, the bony roof of the left orbit was in a measure adapted to the shape of the brain, and the cranium on its external surface was to a slight extent less fully developed than on the opposite side.

How far the intellect and the sense of smell were impaired I am unable to learn, but the woman had been a school-mistress, and seemed to have had a fair share of intellect.

These facts are interesting, as showing the relation between the olfactory bulb and the anterior lobe, and they bear out the views of those who have investigated the independent origin of certain series of the convolutions; for we may regard this deficiency of cerebrum as a want of development of two of the fundamental convolutions, and consequently of the olfactory bulb, which is only a portion of the same.

Biographical Sketch

OF

ROBERT EDMOND GRANT,

M.D., F.R.S., L. & E., &c.

Profeſſor of Comparative Anatomy and Zoology in Univerſity College Hoſpital.

Robert Edmond Grant, M.D., Professor of Comparative Anatomy and Zoology in University College, London, was born at Edinburgh, on the 11th of November, 1798, and is the seventh son of the late Alexander Grant, Esq., writer to the signet, of Argyle-square, in that city, who died in 1808, at the age of sixty-five, after a long and successful professional life. Sir James M'Grigor is one of the few surviving early friends of Mr. Alexander Grant. Mr. Grant had had a family of twelve sons and two daughters, and his entire property at his decease was equally divided among his surviving children, of whom only the youngest, Captain Francis Grant, now remains, together with the subject of the present sketch. Most of Dr. Grant's brothers, both elder and younger, have died abroad, either in the military or naval service of this country, or in those of the East India Company; but he, being of delicate constitution when young, was early fixed upon for the more sedentary profession of medicine, and is the only male member of the family who has ever settled at home.

Dr. Grant received the earliest elements of instruction from a private tutor, who directed, for nearly twenty years the education of the family; and nothing was wanting that ample means could furnish to cultivate their mental faculties, or that gymnastic and other teachers could accomplish in developing the physical parts of their organization. In 1803 he entered the High School of Edinburgh, where he remained for five years, successively under the instructions of Mr Christison, Dr. Carson, and the late Dr. Adam, and where his mind was almost exclusively directed to English, Latin, Greek, Geography, and History. Dr. Alexander Tweedie, of London, was one of his class-fellows at the High School of Edinburgh, nearly half a century since. During this period, also, he studied mathematics, under the late able teacher Mr. Laidlaw: and the French language under Mr. Gavin. The favourite studies of his juvenile years were Greek and geometry, the former of which has proved of great utility in his subsequent pursuits in natural history and anatomy; and perhaps has developed his taste and aptness for acquiring languages, so invaluable to him as a naturalist and a traveller.

The magnificent natural scenery of Scotland disposes to reflection, and to the contemplation and study of nature; and that country has ever been distinguished for its naturalists and moralists. There were few of the wildest parts with which Dr. Grant was not already familiar, by his numerous summer holiday pedestrian excursions, before he entered the University; which prepared the way for his subsequent wider rambles over the great mountain chains of continental Europe. He had already crossed the entire chain of the Alps seven times, and four times the Apennines, and walked alone many thousand miles through Europe, before 1820; and it was not altogether a useless acquirement to him, in his subsequent avocations, that he could neither be easily fatigued by clambering on foot on the most rugged mountains, nor easily drowned in the most deep and agitated waters, especially in his explorations in marine zoology, where these qualifications at least inspired him with the calmness and self-possession often required on such occasions. As to matters of religious faith, he was equally free from bigotry and intolerance; he was born in the Kirk of Scotland, and never sought to prefer to it any other form of religion, his life being a constant hymn to the Great Author of Nature.

Having completed his five years' study at the High School, he entered the literary classes of the University of Edinburgh, in 1808, a few months after his father's death; and to these he added, in 1809, the classes of chemistry and Anatomy of Professor Hope and Monro. The four succeeding years were occupied more exclusively with the medical classes of the University, and of the private medical schools of Edinburgh, there being then no immediate necessity for his hurrying into the practice of his profession. And besides attending all the required branches of the medical curriculum in the University, he was a pupil out of the University, during this period, also, of the late Dr. Murray, for chemistry and materia medica; of Dr. John Johnson, for surgery, two courses; and of Dr. John Gordon, for several courses of anatomy and of physiology,—the most cherished of all the branches of his medical studies. It was, indeed, to the eloquent lectures and the luminous views of that enlightened anatomist, forty years since, that Dr. Grant chiefly owed his early bias for anatomical and physiological pursuits. He first entered as a pupil of the Royal Infirmary of Edinburgh, in 1810; and in the summer of that year he attended the highly attractive and invaluable lectures on Natural History of Professor Jameson, which were more in accordance with his now dawning tastes, and which lectures, at a later period, he attended for several years, with increased interest and advantage. In 1811, Dr. Grant became a member of the old Medico-Chirurgical Society, now long extinct, which met in the University of Edinburgh, and where he read and defended "An Inquiry into the Cause of the Sensation of Hunger;" and he was elected President of that Society in 1812. Dr. Renton, late President of the Royal College of Physicians of Edinburgh, and Dr. John Webster of London, were among the members of this long extinct Society, at that period. He likewise entered the Royal Medical Society of Edinburgh, in 1811; and, after reading and defending four memoirs, now preserved in their *Transactions*, he was elected President of that Society in 1814. His certificate of application to become a member of the Medical Society was signed by Dr. Marshall Hall, the Senior President of 1811, to whom he had been introduced by his co-pupil, Mr. James Gregory.

By the early decease of his father, and the departure of all his elder brothers for their respective professions abroad, Dr. Grant was now left master of himself, and resolved, on the restoration of peace in 1815, to employ his patrimony in extending his professional and general knowledge by some years' study on the Continent, before settling in the practice of medicine at home. After a short visit to the hospitals, schools, and museums of London, the winter of 1815-16 was therefore spent in Paris, chiefly in attending lectures in the Ecole de Médecine and the Jardin des Plantes, and in visiting the museums, libraries, and hospitals of that city. Dr. Thomas Addison, of Guy's Hospital, was among Dr. Grant's fellow students at Paris at this time. The summer of the following year was occupied in travelling through France and Italy; and nine months of 1816-17 were spent in Rome, chiefly in studying the Italian language, in attending lectures in the University of *La Sapienza* and in the *Spedale dello Santo Spirito*, and in perusing the libraries, museums, and ruins of that classical city. Dr. Grant's taste about this period may be surmised from the fact, that after graduating, and before departing for the Continent, he with his friend, Mr. John Dewar, Advocate in Edinburgh, engaged the eminent Greek scholar and teacher, Mr. Cumming, forty years rector of the Canongate High School, to read privately Aristotle and Plato in Greek, although he had already been taught that language by Dr. Carson and Dr. Adam at the High School, by Professor Dunbar at College, and by his private tutor at home.

On leaving Rome in 1817, he continued other nine months in Italy, three of which were passed in Florence, chiefly in perusing the splendid collections of natural history and anatomy preserved in the *Gabinetto Physico*. During his eighteen months' residence in Italy, he acquired a competent knowledge of that language, visited the three ancient universities and the museums of Pisa, Padua, and Pavia, and availed himself of the opportunity of examining the marine animals in the Mediterranean during his stay on the coasts at Leghorn, Genoa, and Venice. On returning from Italy through Geneva and France to Paris, at the end of 1817, he resolved to travel through France and Germany to Dresden, though in the depth of a rainy winter, and to acquire a knowledge of the German language in that classical city, where he arrived at the end of January, 1818, and where he resided for fourteen months before visiting other capitals of Germany—that vast and enlightened part of Europe. After leaving Saxony in March, 1819, he resided for a short time at Prague, more than two months at Vienna, more than a month at Münich, and then proceeded to explore, for more than three months on foot, every part of the Tyrol and of Switzerland; continuing through Grenoble, Avignon, and the south of France, he arrived at the University of Montpelier at the end of October of that year. On leaving Montpelier, he revisited Paris, passed the winter of 1820 in visiting the medical and scientific institutions, and the museums and hospitals of London, and returned to Edinburgh towards the end of that year, where he commenced practice as a physician, with the resolution to prepare now for undertaking the duties of a public lecturer on comparative anatomy. This he accomplished in 1824, when he was invited by the late eminent anatomist, Dr. John Barclay, to undertake that part of his course of comparative anatomy which treated of the structure of all the invertebrated classes of animals.

Designing to confine his medical practice to that of the pure physician, Dr. Grant became a licentiate of the Royal College of Physicians of Edinburgh, and was subsequently elected a Fellow of that College in February, 1827. By his diplomas he was authorized to practise in Scotland, either as apothecary, surgeon, or physician; but, by the present state of medical law, he has been excluded from the medical profession in England, and *his income has been confined to the proceeds of his labours in comparative anatomy and zoology for twenty-three years!* His opinion of this encouraging reception he has candidly expressed in his published "Annual Oration on the Present State of the Medical Profession in England, delivered before the members of the British Medical Association, in 1841. He was elected a Fellow of the Royal Society of Edinburgh in January, 1824, which procured him access to many valuable works on his favorite studies in their library, and to many exotic species of animals, especially of reptiles, in their museum; and he was one of the members who witnessed, along with Dr. Hibbert, Mr. Thomas Allan, and others, the experiments of the late Sir James Hall, the president of the Society, on the artificial formation of rocks by heat and pressure. Dr. Grant was elected a member of the Council of the Wernerian Natural History Society of Edinburgh in November, 1826.

On the first organizing of University College, Dr. Grant was recommended to the chair he now occupies by Professor Jameson, Sir David Brewster, Professor Fleming, Professor Monro, and others; he was nominated by Lord Brougham, and was elected by the Council in June, 1827, more than fifteen months before that College opened; and he is now the last surviving Professor still connected with University College of all the original list published by the Council in their statement, in July, 1827. His introductory lecture, at the opening of his first course, was delivered on the 23rd of October, 1828; one hundred and fifty-eight lectures only were given in the first session, continuing till the end of July, 1829; and the autumn vacation of that session was occupied in examining specimens and collecting notes in the museums of comparative anatomy and zoology at Paris. In November, 1828, he joined the Zoological Society of London, and, by paying composition, became member for life; and, in May 1830, he became a Fellow of the Geological Society of London, paying there likewise composition for life. While on a zoological excursion through Scotland and Ireland, in the autumn of 1830, he became a member of the then organizing Royal Zoological Society of Ireland, by subscribing for the first two years: and when in Dublin at that time he gave a demonstration before the medical faculty assembled, of the abnormal peculiarities of the Siamese twins, with whom he had just travelled from Belfast to that capital.

In the session of 1829-30, Dr. Grant delivered 197 lectures during his nine months' duties in University College, which is nearly the number of every session since that period, except when, to suit the convenience of students, as in the present session, (1850-51.) he gives the same course at two different hours of the day, which greatly increases the total number. The average number of his lectures, delivered annually, on comparative anatomy and zoology, in University College, during the past twenty-three years, is thus above 200, besides his separate hours of examinations and dissections. No course of comparative anatomy and zoology, indeed, now delivered in any part of Europe, equals in extent that given by Dr. Grant in University College. The autumn of 1831 was again passed in the museums, schools, societies, and in converse with learned fellow-labourers in Paris; and in 1832 Dr. Grant was elected a member of the Council of the Geological Society of London. He was elected a member of the Council of the Linnæan Society of London, in 1829. In January, 1833, at the solicitation of many of the most scientific members, he commenced a gratuitous course of forty lectures, extending over four months, "On the Structure and Classification of Animals," before the members of the Zoological Society of London, in their museum; and in the same year he was elected a member of the council of that Society; but the subsequent conduct of the council compelled Dr. Grant to decline taking any further interest in the proceedings of that Society.

In the beginning of 1834, and in February, 1835, Dr. Grant delivered two courses of lectures on human physiology, illustrated by galvanic experiments and microscopical observations, at his private residence, as a legitimate occupation of his acquirements, under the circumstances in which he was then placed—viz, *without salary or guarantee from University College*, and without professional privileges available in England. He was elected a fellow of the Royal Society of London in 1836, and had joined the Entomological Society in the preceding year; and in 1837 he was appointed Professor of Physiology in the Royal Institution of Great Britain, a triennial appointment, which he held for three years. In that capacity, his first course was confined to the nutritive functions of animals, the second course to the motory functions, and the third course to the sensorial functions, throughout the animal kingdom. Dr. Grant delivered two courses of lectures on the structure and history of the radiated classes of animals in the British and Foreign Institute, founded by that eloquent and enterprising traveller, Mr. Buckingham, M.P, and a part of which were fully reported, in nine pages quarto, in the first volume of the *Transactions* of that Society.

Being single, and much alone through life, among his specimens, books, and instruments—his studies have been all his delight—he has ever been partial to literary recreations and the study of languages, and he was one of the earliest members of the Philological Society of London. He commenced the study of the Dutch language only three years since, and was the only English member present at the convention of Dutch and Belgian philologists at Amsterdam in September last. He has been twice elected member of the council of the Geological Society of London, and once of that of the Zoological Society, and in 1847 he was appointed Dean of the Faculty of Medicine of University College, London, the duties of which he performed during two sessions. Dr. Grant is also a member of the Medical Committee of University College Hospital, and is now the father, not only of the medical faculty there, but of University College; and he has been elected a corresponding member of the Medical Society of Athens—an honour which he most of all esteems, from early classical associations

On the opening of the winter term of the Medical School of University College in 1833, it fell, by alphabetical rotation, to Dr. Grant to deliver the introductory address on the 1st of October, which was published entire a few days afterwards in THE LANCET, in the *Medical Gazette*, and in a separate form, entitled, "On the Study of Medicine: being an Introductory Address, delivered at the opening of the Medical School of the University of London, October 1, 1833." In the same year, the editor of THE LANCET, ever anxious to diffuse among his professional brethren for the last thirty years whatever knowledge may enlarge the boundaries of medical science, or elevate the character of medical men, resolved to introduce a course of comparative anatomy into the pages of that journal; and, as Dr. Grant does not lecture from written notes, he sent an experienced and skilful short-hand writer to take down his lectures, as delivered at University College. These "Lectures on Comparative Anatomy," sixty in number, delivered *extempore* during the months of October, November and December, of 1833, embrace a general view of every part of the science as then taught by Dr. Grant, and were published, one per week, in the volumes of THE LANCET for 1833-34, and we proudly refer to them as one of the noblest series of lectures ever published in our journal, and as the most complete exposition of the science of comparative anatomy in our language.

The history of Dr. Grant is the history of his published works, his lectures, his connexions with learned Societies, and his scientific explorations. Out of these he has scarcely had an existence, and scarcely an incident has occurred to ruffle the even tenour of his domestic life. Most retiring in his manners, in his deportment quiet and modest to an unequalled degree, clad always with the most extreme simplicity,—few to whom he night be personally unknown would, from his very nostentatious bearing and appearance, suppose that hey beheld a man of his profound knowledge and leserved renown,—until, the hat being removed, the vhole contour of his head, his intelligent eye, and the ntire character of his countenance, betokened that hat *they* saw no ordinary person. Tranquil, in general, o a proverb, he is yet to be seen often, in the lectureoom, highly animated, when warmed on some favourite heme. Courteous to all; scrupulous, in the highest egree, to avoid the least offence to any; he is yet not vith impunity to be trifled with; and he can be as bold nd fearless in denouncing what he deems to be vilfully wrong, as he is disposed to be indulgent, where e conceives that foibles and error spring from inexerience, or from sources not wholly evil. On the hole, we are not acquainted with any one who more *lly* realizes our idea of a *gentleman*; and though he s hitherto been lamentably little benefited by his *iends*, we can scarcely conceive him to have an emy.

Foreign Department.

Poisoning by Arsenic—Gangrene.

M. FORGET, of Strasburg, has published the follow- g case:—A man, 63 years of age, took two ounces of enic; an hour afterwards vomiting came on, accom- nied by colic and frequent alvine evacuations. Nine urs after the ingestion of the poison, the face was e and haggard, the extremities cold, as well as the se and ears; the pulse small and quick, the tongue ist and icy, and the weakness very great. There s much pain in the abdomen, the stools were very d, but the intelligence was clear, and the answers w.

The patient took the sesquioxide of iron, and ether, l had sinapisms to the arms and legs. After this, niting recurred, and in two hours reaction was es- lished; the extremities became warmer, and the e was less pinched, and more animated. The reac- n increased for a little while, but subsequently gave , the symptoms became less marked, and two days rwards the effects of the poison had entirely disap- red. Severe pain in the left leg was however com- ned of, and that limb was somewhat cold and ten- on pressure. This pain went on increasing; the ations of the femoral artery became gradually ker, and mortification set in. Amputation was ormed ten days after the arsenic had been taken, the patient rapidly sank; sphacelus occurred in the np, and he died twenty days after the taking of the nic, and ten after the amputation. Here the pa- t survived a dose of poison far larger than one monly looked upon as inevitably causing death. next point of interest is the concomitance of the grene and poisoning, and it may be asked whether ere the age of the patient, or the arsenic which ed the gangrene.

oth of a Horny Protuberance on the Parietal Bone of an Aged Female.

GRISOLLE presented, some time ago to the Aca- of Medicine of Paris, a horn which had grown on the left parietal bone of an old woman. It weighed three drachms, was five inches long, ended spirally, and equalled the little finger in thickness. The patient was seventy years old, and very fat; at forty the horn began to grow, but she used to pull it off when it had reached the length of one inch. Fifteen or sixteen of these growths thus followed each other; the present one took three years to attain its size, and the patient submitted to its removal by the ligature, from which operation she had erysipelas, and died. The autopsy proved that the horn had no connexion with the bone; it was attached to the dermis by a kind of fibrous band. Around this, five or six sebaceous follicles were seen, of the size of a pin's head, but the most minute examination by Messrs. Grisolle and Lebert could not elicit that the growth sprung from a sebaceous follicle, as might have been suspected, according to the opinions of Sir Everard Home and Sir Astley Cooper.

Circumcision at Tangiers.

A French surgeon has published, in *L'Union Médicale*, very interesting sketches of the state of medicine in that city. Among other subjects, he describes the mode of performing circumcision both by the Jews and Mussulmen. The latter take the prepuce of the child between the thumb and index of the left hand disconnect it from the glans by pulling it towards themselves, and cut it across at one stroke with straight scissors. The extremity of the penis is immediately dipped into a basin which contains white of egg, and the organ is covered with powdered henné. When the inflammation runs too high, they anoint the organ with sweet oil, and surround it with myrtle poultices. The mountainers of the Rif use the dried and powdered fæces of the rabbit instead of the henné.

The Jews circumcise with more care. They use a silver plate with a slit, much resembling that which forms the handle of the director in this country, and used for dividing the frænum linguæ; the prepuce is made to pass through this slit, by which means it is well isolated from the glans, and with a stroke of the knife they remove the extremity of the prepuce. The operator then takes the penis of the child between his lips, sucks up the blood, drops a little brandy on the wound, and pushes back the mucous membrane of the prepuce behind the glans. Lint, cut into the shape of a Maltese cross, is then placed on the extremity of the organ, the dressings are changed once in twenty-four hours, and the cicatrization is complete in four or five days. Circumcision is much more of a religious ceremony than a surgical operation, and the skill of the majority of the *theubibs* (or doctors) goes no farther.

L'Union Médicale, of the 11th inst., mentions the death of two very eminent members of our profession —viz: Francis Charles Nagelé, the celebrated Professor of Midwifery at the University of Heidelberg, well known by his numerous works on obstetrics, who died in his 72nd year; and Conrad Martin Langenbeck, chief surgeon of the Hanoverian army, and Professor of Anatomy and Surgery at the University of Goettingen, where he erected at his own cost two splendid edifices, one the hospital for clinical surgery, and the other an anatomical school.

Treatment of Abscesses connected with Caries of Bone.

THE Surgical Society of Paris has been lately occupied with the discussion of a peculiar treatment of what the French surgeons call congestive abscess, excited by caries of bone. M. BOINET, who read a paper on the subject, proposes to evacuate the abscess as completely as possible, and to inject immediately pure tincture of iodide. But when the sac is large, and for the first injection, he prefers adding equal parts of water to the tincture, and one drachm of iodide of potassium for every three ounces of the same. The addition of the salt is intended to facilitate the diffusion of the tincture. The author adds, that the general treatment should not be omitted, and advises the use of good diet, preparations of iron, iodide of iron, cod-liver oil, &c.

He brings forward four cases of cure where the abscess was situated in different parts of the body. The first case refers to a man, thirty-four years of age, who had been treated for five years for abscess connected with caries of the hip-joint; the latter affection was cured in eight months by M. Boinet's method. The second is that of a lady, thirty-eight years of age, who was cured of caries of the sacrum and abscess after eight injections. The third, a girl of twenty-one, suffering from caries of the third, fourth, and fifth cervical vertebræ; and the fourth, a child nine years of age, affected with caries and curvature of the spine, whose abscess contained more than a quart and a half of pus. The child was cured after five injections, and her health, which was much deteriorated, has improved remarkably since the operation. M. Boinet insists principally on the fact that his injections, besides modifying the walls of the sac, act directly upon the diseased bone, and that they prevent the absorption of the pus, whether the latter was putrid by the admission of air, or unaltered.

The Surgical Society discussed the subject with great animation; the majority of the members were very far from completely approving of the plan, and the general feeling was, that a great many more and varied trials must be made before this treatment be entitled to any credit. It will certainly be worth while to give these injections a fair trial in this country; for the results of the usual treatment of caries and abscess are so uncertain, that it would be a great boon if M. Boinet's somewhat sanguine expectations became realized.

On Syphilitic Contagion between Nurses and Sucklings.

M. Cullerier recently brought the above subject before the Academy of Medicine of Paris, and has certainly rendered great service to science by his investigations respecting a question of much interest. His object was, to determine whether secondary syphilitic symptoms, which are admitted not to be contagious from one adult to the other, possessed the power of propagation from the suckling to the nurse, or *vice versâ*. M. Ricord has taught, for a great number of years, that in *all cases* infection could take place by *one channel only*—namely, contact with the secretion of a *primary* sore; and he has shown that the supposed contagious nature of *secondary* symptoms from nurses to sucklings, and *vice versâ*, was always owing to the existence of some *primary ulceration*, the only way in which secondary symptoms are propagated independently of primary ones, being heredity.

These tenets have found opponents, among whom were Messrs. Lagneau, Cazenave, and Gibert; and the question being then still unsettled, M. Cullerier has attempted to set it at rest, and, as it appears to us, successfully so.

Having for the last four years been surgeon to the wet nurse department of the female venereal hospital, at Paris, he took advantage of that circumstance to watch the cases, and succeeded in collecting eleven of them, which prove that *secondary* symptoms are not communicable from wet nurse to child, neither from the latter to his nurse. M. Cullerier divides his eleven cases into two divisions: the first comprises five cases of diseased nurses whose sucklings were not contaminated; the second includes six cases of diseased children whose wet nurses remain perfectly healthy.

First Division. 1st case: Headache, loss of hair, roseola, secondary ulcerations of tonsils, but breast intact. 2nd case: Mucous tubercles of vulva and in the throat, no cutaneous manifestations, breasts healthy. 3rd case: Body covered with confluent roseola, involving the breast as far as the base of the nipple; mucous tubercles on vulva, and commissure on lips. 4th case: Syphilitic lichen upon various regions of the body, and an ulcerous mucous tubercle on the root of the nipple, involving a large portion of the areola. 5th case: Psydraceous pustules on the chest, face, and abdomen, likewise on both breasts, including the nipples, on which spot the tubercles were ulcerated and ragged, and kept a long time in that state by the suction of the child. Now these five cases were closely watched during a four months' treatment, and none of the children was in the least infected.

Second Division.—Here two of the children had, besides unmistakeable syphilitic symptoms, mucous tubercles on the *lips*, ulcerated in one of the cases; a third child had the same symptoms on the *tongue*; and a fourth was laboring under chronic coryza, with very abundant secretion. In the six cases, however, none of the nurses suffered, and the nipples remained perfectly healthy.

M. Cullerier thinks these eleven cases quite conclusive, and to strengthen his position he added another case, in which the patient stated that she had been contaminated by nursing a child which had just died, destroyed by syphilis, yet he was able to discover the *chancre* which had been the source of the secondary symptoms attributed to the child, which chancre this woman had taken from her husband. M. Cullerier likewise mentioned two other cases; in one he found, both upon the child and the nurse, the *primary sore;* in the other, the nurse had a primary ulcer, and the child secondary symptoms. From all these facts the author concludes, that the above-mentioned law applies both to adults and children—viz., that secondary syphilis is not *in any case* infectious, except by heredity. The contrary opinion, according to M. Cullerier, has sprung from faulty observation, the neglect of certain important details, and in many cases, from losing sight of the fact, that with children the morbid phenomena are developed with much greater rapidity than where adults are concerned. As to contamination by the milk, it had never been known to exist.

New Experiments on the Woorara Poison.

By Messrs. Cl. Bernard & Pelouse.

It appears from these experiments, an account of which was read before the Academy of Sciences of Paris, that the action of the woorara is instantaneous when it is injected directly into the vessels. When the jugular vein of dogs and rabbits has been thus injected, the animals have died as if struck with lightning, without screams or convulsions. If the woorara is introduced under the skin in solid fragments or in solution, its action is not so rapid and in proportion with the size of the animal and the dose. Birds and mammalia die in a few minutes, but it takes several hours to destroy a reptile with the poison. Birds and dogs do not seem immediately affected after the puncture: the former fly for a little while, but soon fall, and die without a struggle: the latter walk about a little, then lie down, as if tired, and seem to fall asleep, and die imperceptibly. Galvanism has after death no influence on the nerves, the blood is black, refuses to coagulate, and is no longer reddened by the contact of the air.

The woorara may without danger be ingested into the digestive canal, but if the poison be mixed with gastric juice and introduced under the skin, it takes effect. Thus it would appear that the woorara is not decomposed in the stomach, it is merely dissolved in that organ, but the mucous membrane does not absorb it. A simple experiment will prove that this property of mucous membranes is of a purely physical and not a vital nature. If a piece of gastro-intestinal mucous membrane is adapted to a glass tube, with the mucous surface turned outwardly, a watery solution of sugar having been introduced into the tube, the liquid will rise in the tube if it be plunged into a solution of woorara, endosmosis will have taken place, but no woorara has traversed the membrane. The poison will, however, penetrate the membrane if the latter be not fresh, and the contact last very long.

IMPORTANCE OF CLINICAL MEDICINE.

As this journal was the first to communicate Reports of Clinical Lectures to the profession, and as we have consistently maintained the paramount importance of this branch of medical instruction, we notice, in terms of the strongest approbation, the strenuous efforts which are now being made by the Court of Examiners of the Apothecaries' Society, to give a prominent place to Clinical Medicine in their curriculum. It appears that attendance on Medical Practice and on Clinical Medicine has long been required by their Regulations; but it is pretty well known, that although a formal attendance at the hospitals has been required by the physicians, anything like a regular and systematic course of clinical instruction has not, except in very few instances, been either pursued by the teachers or attended by the students. The latter have been compelled to attend interminable lectures upon the Theory of Medicine, upon the history of rare diseases, and upon the hypothetical action of drugs; while the knowledge of disease, as it actually exists in the wards of the hospitals, has been comparatively neglected. It is a notorious fact, that while in Paris and in Edinburgh a complete system of clinical instruction has long been in operation, in this country such a system cannot yet be said to exist. In the former cities there are distinct professors, whose duty specially consists in communicating practical knowledge of disease to the pupils, offering to them opportunities, at the bed-side, of physical examination of the sick, and of watching their symptoms by daily observation; and who, day after day, repair to an adjoining lecture-room, and there, in luminous language, detail the symptoms, the physical signs, the progress, and the result, of various diseases, together with such other remarks as it was inexpedient to make in the actual hearing of the patients. By these means the pupils are not only taught to see, to hear, and to manipulate for themselves at the bed-side, but their observations are confirmed, and their knowledge is systematized, by the lectures of the clinical professor. In our own great metropolis, with means of teaching quite as extensive as those which exist in Paris, and infinitely more so than those in Edinburgh, the circumstances are widely different: the physicians and surgeons generally content themselves with a routine attendance in the wards, and the pupils formally accompany them during their perambulations. Clinical lectures are either not delivered at all, or they are given at long and uncertain intervals; and the pupils, considering that attendance on them is not absolutely essential for passing the Hall and College, generally neglect them. Thus it happens that the medical student, at the termination of his London studies, is obliged to repair to one of the continental cities, in search of the information which he might have obtained in his own country, if the immense resources of our great metropolitan hospitals were made more generally available.

To remedy this state of things, no measure can be so efficacious as a cordial co-operation of the different examining boards with the teachers of the hospital schools; and if the latter were to adopt, and the former to enforce, a better system of clinical instruction, there would, in a very short time, be an end of that lax state of things which we have now occasion to deplore.

The Society of Apothecaries, to whom, under the present anomalous condition of medical affairs, the education of the general practitioners of this country has been mainly entrusted by the legislature, are making through their Court of Examiners, energetic efforts in the right direction: they have recommended the discontinuance of half the lectures on Theoretical Medicine, which are delivered out of a book, and the substitution of a course of Practical Lectures, delivered at, or immediately adjoining, the bed-side of the sick; and they have diminished by one-half the course on Materia Medica, but have replaced it by requiring from the student certificates of having performed, *with his own hands*, a course of experiments on Pharmaceutical, Toxicological, and Pathological Chemistry. We repeat, that these are steps taken in the right direction, and that the Court of Examiners of the Apothecaries' Society have entitled themselves, by their recent proceedings, to the thanks of the profession.

The immediate occasion of the foregoing remarks is a correspondence which has lately appeared, in the pages of this journal, between Dr. NELSON, the Professor of Clinical Medicine at the Birmingham College, and the Court of Examiners of the Society of Apothecaries. Dr. NELSON complains, that although clinical lectures are regularly delivered by him, they are seldom attended by the students, owing to an impression that exists among them, that the rules relating to clinical lectures are not *imperative*, but merely *formal*. The Court of Examiners, in their reply, declare that they consider clinical instruction "imperatively necessary, and that attendance upon it should be *enforced* in such a manner as the physicians may think expedient." They further declare their earnest wish to encourage the appointment of *distinct clinical professors* at all the schools; but until that object be accomplished, they require that clinical lectures should be delivered regularly by the physicians, and that "the part of the schedule appropriated to clinical lectures should be filled up only after a *bonâ fide* attendance, as in the case of the other lectures."

REPORT OF THE INDIAN SMALL-POX COMMISSIONERS.

Owing to the kindness of Mr. J. R. Martin we have been favoured with a copy of the Report of the Small-pox Commissioners appointed by the Indian Government, in 1850, to make an extended inquiry into the subjects of Inoculation and Vaccination in the Bengal Presidency. We have examined this able Report with a view to elicit any facts it may contain, bearing on the questions which we understood Dr. Gregory to have raised at the last meeting of the Medico-Chirurgical Society. We regret that we do not find any points bearing directly upon the occurrence of a specific eruption in those who are inoculated in adult life after vaccination in childhood; the Report contains, however, a large mass of valuable matter which should be known to the profession in his country.

It appears that during the last eighteen years, small-pox has raged as an epidemic in Calcutta, and that in these visitations upwards of 13,000 victims have been carried off. The last epidemic—that of 1849-50—has been the most fatal visitation, having destroyed 6100 persons. We are told that during the first three months of 1850, small-pox killed 3329 out of a native population estimated at 387,398! This fearful epidemic—far more devastating than the cholera in this metropolis, considering the disproportion of the two populations—began with the occurrence of eight fatal cases, in the month of November, 1848. The most careful examination failed to discover whether those eight persons had been inoculated, or whether they had been exposed to contagion, or whether the disease broke out spontaneously in some of the filthy bazaars, in which the seeds of pestilence always find ready shelter. This epidemic at first attacked the young and unvaccinated; but the Report says that it subsequently "extended to people of all ages and conditions," from which we infer that those who had been vaccinated, and even those who had been inoculated, did not escape, though this is not positively stated. We are told, that in Europeans the disease was "modified" by previous vaccination. The most distinct testimony we can find on this point is the account of the cases treated by Drs. Macpherson and Cantor, in the General Hospital, Calcutta, all the patients being Europeans, and nearly all of them adults. The number admitted from December, 1849, to May 1, 1850, were 76, of whom 20 died and 56 recovered. Dr. Macpherson divided the cases into 46 mild or modified, and 30 severe or confluent. Of these (the confluent) 12 are stated to have been previously vaccinated, and exhibited good cicatrices; 13 had been vaccinated, but the cicatrices were not well marked; five only had not been vaccinated. Of eight children attacked, six of them had been vaccinated. Thus, out of 30 cases of confluent small-pox of which 20 cases were fatal, no less than 25 cases had been vaccinated! This would seem decisive, that in hot climates vaccination is not an absolute protection during the raging of a violent epidemic of small-pox. On the other hand, it should be stated, that of the 70th Regiment, in Fort William, numbering men, women, and children, 1168, but five cases of small-pox have occurred, and these of modified character, only one case proving fatal. Dr. Ross, of Hooghly, also mentions the extraordinary fact that he had attended nine persons with confluent small-pox, "the whole of whom had been inoculated in early life." To add to the consternation which this epidemic produced, "numberless cases were stated in January to have occurred of the failure of vaccination, and worse still, of its producing small-pox." This produced, of course, great distrust of vaccination. The Report states, in another place, also, "that owing to the great prevalence of the epidemic, its existence, in fact, in almost every house in the native town, and the difficulty or impossibility of separating the already affected members of a family from those whom panic led to seek the protection of vaccination, great numbers who were punctured by the vaccinators with unexceptionable lymph, exhibited, within a few days after the operation, undeniable symptoms of small-pox."

In India, up to the date of the present commission, hordes of Ticcadors, or vaccinators, exist, and are even sanctioned and salaried by the Indian government. They are sometimes Brahmins, but generally they are of low castes and trades, and uneducated. It is their interest to represent inoculation as a religious rite, and to prefer it to vaccination. They declare the human variety of the disease infinitely preferable to the vaccine. The process of inoculation, or the eruption of small-pox, is looked upon in a religious quite as much as in a medical point of view. When a person is inoculated, the goddess Situla, the presiding Deity of small-pox, is invoked with sundry rites, and various ceremonies are performed by all pious Hindoos. The same occurs after small-pox has been taken naturally. Some refuse inoculation altogether, as irreligious, and when attacked, believe that the first child or individual fatally attacked is a propitiation to the goddess Situla, and ensures the preservation of the rest. It is remarkable that some of the Hindoo superstitions are favourable in an extraordinary degree to the preservation of the variolous poison. Thus, in the bazaars and other places, many married brothers or sisters live together, and it is a religious dogma not to inoculate pregnant women. The consequence is, that as some of the women of a household are always pregnant, there is always present the material for the contagion of small-pox to work upon.

We have referred to the circumstance stated in the Report—namely, that it frequently happened that small-pox would appear a few days after vaccination. It is right also to state the method in which this extraordinary fact may be accounted for. There are some grounds for believing that during a virulent epidemic, the small-pox miasm becomes so powerful as to overcome the vaccine influence. It would even seem that in certain cases the process of vaccination produced small-pox, owing to the violence of the epidemic predisposition. It must also be said that during the height of the late visitation, the vaccine lymph at Calcutta lost its potency either from the violence of the epidemic influenza, the heat of the weather, deterioration of the lymph, or some other cause. It is declared that the lymph was purposely deteriorated and mixed with small-pox at this juncture by the vaccinators. The Report of the Commissioners states,—

> "That the present race of native vaccinators are mostly made up of the basest and most untrustworthy of their countrymen, frequently consenting, for a small bribe, to mix some small-pox matter with the vaccine lymph which they are hired and expected to propagate in purity."

From the Indian Report, which is of extreme value and interest, we believe we may gather the proofs, that even in hot climates, vaccination is a protector and modifier, in persons of all ages, though not an absolute safeguard. Neither is inoculation an absolute preventive, though it is attended by the fearful risk of the propagation of small-pox among the uninoculated. We see, in the Report, abundant reasons why inoculation, as practised in India by the Ticcadors, or vagrant vaccinators, should be suppressed, and vaccination rendered compulsory. We have sought in vain for any evidence bearing upon the more perfect immunity of persons who have been inoculated in adult age, after vaccination. The Report is silent on this point, because it is evident the matter did not come under inquiry before the reporters. Yet India is remarkably favourable for such an inquiry. It frequently happens, in that country, that persons who are vaccinated, in the first instance, are subsequently inoculated; such is the varying feeling of the people between vaccination and inoculation. It would be of very great importance if Indian medical practitioners particularly noted the cases of persons who have been subjected to post-vaccine inoculation. They might be able to settle a point, which can only be agitated in this country—namely, whether post-vaccine inoculation, performed after puberty, be an absolute, positive, and unfailing defence against small-pox in middle life. We beg to direct the attention of our Indian brethren to this point, as one worthy of their best study and observation. We shall be delighted to publish any observations on this subject. The ravages of small-pox in vaccinated persons in hot climates, and the facts stated by Dr. Gregory, that of a large number of persons attacked with small-pox, in this country, after vaccination, nearly seven per cent, are destroyed, render this subject one of the highest in which medical men can engage at the present time. The glorious discovery of Jenner claims at our hands that everything which can be done to render it perfect and availing to the whole human race should be accomplished without loss of time.

THE CRYSTAL PALACE.—NEW HOSPITAL GARDENS.

The spectator who stands beneath the vast transept of the Crystal Palace—who sees enormous trees spanned by its translucent roof—or whose eye wanders along the nine miles of its maze-like avenues—cannot but feel under the influence of a new idea. To cover in a whole landscape with glass—to enclose a space, in which all the nations of the earth will congregate, protected from the weather by an almost imperceptible film—strikes one, at once, as a new and gigantic thought. Yet this great structure is but the development of a common greenhouse: we have but to multiply the conservatory at Kew by so many times, and the result, as we find, astonishes the world. It is by the sudden exaggeration, however, of well-known facts, that we sometimes become aware of their power and importance. The sanitarian sees at a glance the countless developments to which the great Palace of Glass will give rise; whilst he might have looked for ever up at a skylight without a like result.

The living age has been called an age of iron—the coming age will be an age of glass; countless windows will open, and countless dark shadows flee for ever from amongst us the moment the Chancellor of the Exchequer abolishes the window-tax. Even in anticipation of this relief, Messrs. Fox and Henderson have already orders for the construction of private houses in the country, in which glass is to form the main building material. We shall, ere long, have streets fenced in against the inclement sky by this beautiful material; and to state a fact which bears more immediately upon the matter of which we wish to speak, it is in contemplation to glaze over the immense quadrangle forming the interior of the British Museum, and to make it a receptacle for the precious fragments of ancient art, and the mutilated ideals of the human form.

Those who are familiar with our London hospitals know that they have their quadrangles, in which mutilated and shattered human life itself is rife enough. It is the gardens and exercise-grounds connected with our great establishments dedicated to the cure of disease to which we wish to call attention; it is in behalf of the poor human creature, slowly struggling towards convalescence, that we wish to be heard—objects more worthy of all the aids of art, broken and degenerated as they are, than the most precious statue that Phidias ever wrought.

These hospital gardens! How even the healthy heart sinks at the sight of them! It would seem as though the animal disease surrounding them entered their vegetable life in a concentrated form. Soot chokes the grass. The trees in the heat of summer spread their black and leafless arms, and the very birds are frightened at them.

Hospital gardens, in short, are melancholy examples of what nature can be brought to by the hard treatment of man. Yet it is into such pleasure-grounds as these that the patient is turned out by careless nurses for fresh air, as soon as he can shuffle from bed to bed. Here, open to the raw winds or the damp atmosphere, he suffers all the combined influences of moral and physical depression. Such a state of things must strike every one as vicious in the extreme. The passage from the sick-bed to the rough work-day world should be conducted with more art, if we desire success to attend our restorative efforts. This truth has been long recognised by medical men, and a convalescent hospital has been proposed to which suitable patients might be drafted; but, to our minds, much of the necessity for such an establishment would be avoided, if each hospital were to take advantage of the new-found resources of art, displayed on so magnificent a scale at the Crystal Palace. Why should not a portion at least of the miserable hospital-gardens be enclosed with glass? With this crystal shield we might cover the patient at all times from the rude assaults of the weather, and we might even regulate the temperature in a certain degree without excluding the fresh air. Such enclosed spaces might form winter-gardens and conservatories for the sick, as we already have them for the hale and strong; and if we are correctly informed, the governors of the Hospital for Consumption have already entertained the idea.

Some one has beautifully said, "Trees are the natural companions of man;" the quality they possess of giving out oxygen in the day-time, is one which makes them particularly fit agents in restoring animal life and vigour. A few flowers, cultivated without much expense, interspersed with green and luxuriant shrubs, would have a beautiful effect—an effect rendered doubly grateful to the patient, tired of the monotony of the sick-ward, and disgusted with the odours which cannot always be avoided there. The expense of such enclosures, now that glass is cheap, could not be very great.

It seems to us that, in an economical point of view, these proposed enclosed gardens are worthy of the consideration of the governors and managers of the great metropolitan hospitals. That they would tend very materially to aid the medical man in his efforts to restore the patient to his pristine health, there can be little doubt; and it seems to us equally likely that they would enable the convalescent patient to avoid many of those contagious diseases, to the influence of which they are unfortunately so often exposed in ill-ventilated and crowded wards, and which so often retard the period of their final recovery.

DR. GREGORY ON VACCINATION.

Dr. George Gregory's speech, called forth by the discussion on Dr. Webster's interesting paper at the late meeting of the Royal Medical and Chirurgical Society referred to matters of vital importance, not only to the inhabitants of these islands, but to the world at large. If the deductions of Dr. Gregory be correct, the discovery of the immortal Jenner should assume a new phase. We understood Dr. Gregory to assert it as a law, founded on his own extensive experience, and on an enlarged intercourse and correspondence with other men who have devoted themselves to the study of the relations between small-pox and vaccination, that vaccination is a certain prevention of small-pox only till the age of puberty. He would say that a child through whom the vaccine virus had been passed by vaccination remains free from the danger of small-pox only up to the age of fifteen or sixteen years. After this time, in his opinion, the liability to small-pox is again developed in the constitution, and increases from that time, to the periods of middle life and maturity. Our report of the discussion will contain the data from this law, as sought to be established by Dr. Gegory.

But there is another point of equal interest and importance: Dr. Gregory asserts as a matter of positive fact, that if, subsequently to the age of fifteen, when the tendency to be affected by the contagion of small-pox reappeared in the system, after fifteen years of perfect immunity, from the effects of vaccination, the body be inoculated by the small-pox virus, a disease neither pustular, nor vesicular, but papular, and distinct from both vaccinia and variola, is produced. He further asserted, as we understood, that this papular disease is little more dangerous than the vaccine vesicle, that it was not propagated by contagion, and that it conferred immunity from small-pox during the rest of the person's life upon whom it had been performed. He further declared, that re-vaccination after the age of fifteen was of no use whatever as a protection against small-pox. The statements respecting the safety and preservative influence of inoculation and the papular eruption, in persons who had become liable to small-pox after vaccination, rests, as he assured the Society, on positive experiments performed by himself in this country, by Cazenave and others in France, and by some Italian physicians.

It is not for us to say whether these inductions are likely to prove rash and unstable. The inferences to be drawn from them did not appear to strike either Dr. Gregory or the Society very forcibly. But to ourselves they amount to nothing less than this—namely, the repeal of the vaccination in so far as it makes inoculation after puberty an illegal act. It is evident Dr. Gregory and Dr. Copland are not terrorists, inoculation after the age of fifteen is only second in importance to vaccination in infancy. The subject is of too great importance to be suffered to sleep, and we trust those prepared with facts, either against or in favor of the views of Dr. Gregory, will bring them forward. If Dr. Gregory really possesses a means of rendering adults free from the danger which, real or imaginary, haunts many persons, of small-pox after vaccination, by a process free from danger, he will confer a great boon on the community by laying it before the profession, not as a matter for an occasional speech, but as one of the most important sanitary points which can engage professional attention.

MANAGEMENT OF LUNATIC ASYLUMS IN FRANCE.

Considering that the treatment of lunatics and the management of asylums are questions of the utmost importance, both to the profession and the public, we take up the subject, arising out of Dr. Webster's recent visit to some of the provincial establishments for the insane in France. In some respects our Gallic neighbours have much to alter, before they can be considered as on a par with their English brethren, especially in reference to the too frequent employment of personal restraint. This, truly, is the great blot in their system, more particularly as the philanthropist Tenon and the elder Pinel were amongst the first and also the most zealous promoters of the modern humane plan of treatment. On other points, however, our *confrères* of France merit praise and imitation by their coadjutors throughout England, in the same benevolent cause. In most public lunatic asylums of France, especially those recently established, the medical staff is more numerous, and better adapted for all purposes, than in England, as it comprises *internes*, which useful class of medical officers is almost unknown in similar establishments of this country. To show the advantages attending such officials, it may be mentioned as very remarkable, that wherever *internes* were attached to any French asylum, restraint was there less employed, and the patients all appeared more tranquil than in similar institutions not provided with these resident pupil officers. For example, at the St. Gemmes Asylum, having 340 lunatics, but no *internes*, twenty-seven patients were in *camisol;* whilst at the Orleans establishment, having 521 insane inmates, and also without *internes*, twenty-five persons were under restraint. On the other hand, at the Le Mans institution, containing 258 lunatics, only seven patients were mechanically restrained; whilst at St. Yon, having 729 insane inmates, not more than ten individuals were under coercion; both asylums possessing, in addition to the resident physician, *internes* who were constantly on duty. Appointments of the above description are decided desiderata in English institutions for the insane; seeing that such officials prove not only highly useful to the entire establishment, but thus become instructed as future practitioners in the best of all schools—viz., that of extensive clinical experience. Hence, every asylum for lunatics in Great Britain ought to have professional attendants like those attached to the hospitals in France, and which are quite as much needed as the ordinary officers.

Of late years, great progress has been made in France, respecting the nature, pathology, and medical treatment of mental diseases; but although the physicians of that country transmit regular reports of all proceedings in their respective asylums to the higher official authorities, which frequently contain much valuable information and statistical details, with other data of great importance, these documents are nevertheless often lost to the profession, since they seldom appear in print, as in England, but become buried in the archives of the Prefecture, or in a ministerial bureau, and thus consigned to unmerited oblivion.

This is much to be regretted, for it would be extremely beneficial to all parties, were the English custom of publishing annual reports generally adopted. Another feature in the management of French asylums deserves remark and amendment —namely, the power possessed by the Minister of the Interior of nominating the physicians to every departmental institution for the insane; thus making them, in fact, the servants and nominees of the government, instead of officers appointed by, and therefore responsible to, the local authorities. This system is, however, only an additional illustration of the ruling principle of centralization, and that monopoly of patronage existing throughout the country, unfortunately too common with respect to the medical as well as other professions. Having the sole power to appoint all physicians of public lunatic asylums, the Minister may also dismiss any officer when it pleases him. A well-known instance of the exercise of this power occurred in 1848, when so eminent a physiologist as M. Foville was summarily deprived of the valuable and important office of physician to Charenton. Besides the present objectionable mode of appointing the medical officers of departmental asylums, the remuneration they often receive is very inadequate; especially, as in most provisional institutions the physicians are debarred from engaging in private practice, although their annual salary amounts, in some instances, to only 2,400 or 3,000 francs, with an official residence. Such stipends are by no means sufficient for the labor performed.

Each department in France, according to the present law, is obliged either to construct a public establishment, destined for the treatment of lunatics belonging to the district, or to arrange, under the sanction of the Minister of the Interior, with a public or private asylum, in the same or neighboring department, to receive its insane paupers. In certain cases, however, in civil hospitals, a separate division for lunatic patients is found, provided adequate accommodation be supplied for not less than fifty individuals: the number of these institutions throughout France, exclusive of Paris, amounts at present to sixty-seven. The departmental asylums similar to Le Mans, where none but lunatics are admitted, were recently thirty-seven; those forming only one division of a general hospital, as at Nantes, eighteen in number; whilst twelve private establishments, like Bon Sauveur, at Caen, receive insane patients from neighbouring departments, according to pecuniary agreement. In addition to the above sixty-seven public receptacles, there are also three great institutions for the insane in Paris—namely, Bicêtre, La Salpêtrière, and Charenton,—thus making seventy asylums throughout the whole of France, which are now more or less under the surveillance of government. Within these establishments the insane inmates amount to about 22,400, of whom the majority are females. It is also an important fact, that lunatic asylums are met with in greater number in the northern than the southern provinces, which shews that mental diseases are more frequent amongst the population of the former and colder regions of the country, compared with the warmer climate of southern districts. This feature of insanity, in reference to latitude, is, however, not peculiar to France, as a similar tendency prevails also in Germany, Italy, and likewise in Great Britain.

Other points of interest might be noticed, did space permit, but to these it is impossible now to advert. Thus much, however, we must say:—Dr. Webster has done good service to the profession, by bringing the interesting subject of lunacy in France before English practitioners; whilst his criticisms, and the facts he has collected, must produce beneficial results amongst our neighbours. Indeed, considerable sensation has already been caused in various quarters; and observations have in consequence been made, in several French journals upon the subject. Thus, one periodical "hopes, for the honor of the country, that Dr. Webster has exaggerated or darkened the picture he has traced of lunatic asylums;" whilst another acknowledges, in reference to Bon Sauveur, at Caen, "that his statements are correct, since several foreign physicians have made similar observations." This admission is candid, and must lead to investigation on the part of public authorities, so as to insure future improvement.

Before drawing our remarks to a close, respecting French lunatic asylums, although not strictly medical, still, as an indication of some curious effects produced by the late revolution, and also as detailing a rather remarkable circumstance, we quote the following paragraph, with which Dr. Webster concludes his narrative:—

> "From the period of leaving the sea-coast, and during the whole of my wanderings in Normandy, Brittany, on the banks of the Loire, and through several neighbouring departments, which extended to nearly eight hundred miles, and occupied some time, *I never met a countryman, spoke a word of English, or saw any British newspaper*, notwithstanding the whole journey was made by railway, in steamboats, or the ordinary conveyances; whilst I often frequented cafés, tables-d'hôte, with other usual places of public resort, and was always on the move, or in society. Besides these opportunities of meeting strangers, I also visited the crowded exchange of Nantes, at the hour when merchants, with men of many nations, do congregate; and likewise passed one day at Blois, formerly a favorite residence for self-expatriated and renegade Britons, whose object often was, rather to enjoy cheap luxurious living than to advance the interests of their father-land; although from thence, in the aggregate, they derived a large revenue, to be selfishly expended in a foreign country. Notwithstanding all this, until my arrival in Paris, subsequent to the visit I have recorded in these pages, the above rather singular, but, on my part, involuntary, proceedings, continued without interruption. However, when returning from Nôtre Dame Cathedral, having met an eminent London physician, a friend and near neighbour, who had, like myself, come to pass his holidays on the soil of 'La Belle France,' the spell which hitherto, figuratively speaking, seemed to hover round all my varied movements, and even to influence external events, was at last broken; whereby I now resumed my native language, and, with that event, again became an Englishman."

THE LATE ROBERT LISTON.

The Government, as no doubt most of our readers have observed, has granted to the widow of the late Robert Liston a pension of £100 per annum. Whilst it must be a subject of regret that Mrs. Liston should require such an addition to her income, it is gratifying to know that the just claims to such aid by the widow of one of the greatest of modern surgeons have been thus acknowledged by the Government.

Though almost a solitary instance of the kind, it must be satisfactory to the great body of the surgeons of this kingdom to find, even in a single instance, that the labors of one of their brethren have been, even to the extent mentioned, recognized as a national benefit.

Had it been the fortune of the "English Cuvier" to have been born in any country but England, we believe that it would not have been necessary, after his gigantic labors in the field of natural science, to have contemplated a public subscription to secure him a life annuity. After a life and fortune spent in the pursuit of knowedge, Dr. Grant, we regret to say, has received neither honors nor rewards to compensate him for his devotion to science. We trust, however, that the negligence of those in power to acknowledge his great services will stimulate the scientific public, and more especially the members of that profession of which he is so distinguished an ornament, to exert themselves in his behalf. It would be a disgrace to the *savans* of this country, but more especially to those connected with medicine, if the future years of one of the greatest philosophers of this or any other time should be embittered by the "*res angust adomi.*"

Adult Deaf-and-Dumb Institution.—The committee of management of this institution held the anniversary festival, on the 26th ultimo, at the London Tavern, under the presidency of Lord Robert Grosvenor, M.P., V.P. A rather large number of gentlemen sat down to dinner. After the cloth was withdrawn, the chairman, briefly gave the customary loyal toasts; after which he strongly recommended this institution to the notice of the meeting, and urged those present to do all they could for advancing its interests. Its objects were, to watch over the deaf and dumb after they had left the infantile asylum, to keep up their reverence for religion, to enable them to acquire a trade by which they may live, and to assist them generally in their progress through life. To effect this satisfactorily, they desired to erect an asylum some short distance from town, where all these objects may be carried out.

Reviews and Notices of Books,

AND ALSO

ANALYSES OF PAPERS IN MANUSCRIPT

SENT FOR PUBLICATION IN THE LANCET.

On the Climate of London during the Prevalence of Asiatic Cholera in August, 1849. By R. HUTCHINSON POWELL, M.D., London. 8vo, pp. 8. THE LANCET Office.

THE following summary of facts is derived from a paper read by Dr. Powell to the Harveian Society early in the present session. The month of August alone was chosen for the period of examination, because, although cholera was proportionally more fatal in the month of September, the mortality declined rapidly towards the middle and latter end of that month, while in August the scale steadily ascended. His meteorological details were derived from the observations of Mr. Glaisher, at Greenwich, the secretary of the Meteorological Society at Camberwell, and the *Times Correspondent* at Bermondsey.

"The mean temperature, during August, was 62°·9, that of the average of the same month in eight preceding years being 60°·8, giving a difference of 2°·1. The range was 20°·2; that of August in the years 1841—48 was 17°·3, giving a difference of 2°·9. Neither of these qualities alone could have had much influence, as we find still wider differences between those years, the average result only of which is here given. These observations indicated a very unequal distribution of temperature. It ran highest after the first few days of the month, (being on the 11th 79°, on the 4th & 5th 46°, Camberwell,) and towards the end the air was calm, close, and oppressive. The temperature varied from 42°·4 to 82°·5, giving an extreme range of 40°·1. The average difference of the day and night, from the 22nd, was 17°. It is worthy of remark, that 1663 deaths from cholera took place during this last week, the disease having nearly reached its extreme fatality, 2026 deaths occurring in the first week of September, after which the mortality diminished. The thermometer in this month attained its greatest height (78°·) on the 5th, and on the 6th, (71°,) declining towards the 12th (46°·). In the first week of September the same close weather prevailed as in August, there being thunder and lightning on the 1st and 2nd; and on the 11th, a storm of wind, rain, and hail, with distant thunder, cooling the air; after which cholera rapidly declined. (Camberwell.)"

Dr. Powell next passes to the pressure of the atmosphere:—

"The corrected reading of the barometer for August, 1849, was 29·841 inches, (being at Camberwell 29·51 inches;) that for the average of the same month of the years 1841—48 was 29·781,—in 1849, thus exceeding the average by 0·060 of an inch; and the water counterbalanced a column of mercury, of less than its average height, by 0·038 of an inch; therefore the pressure of dry air exceeded its average value by the sum of the two gravities—viz., by 0·093 of an inch. This result, however, differs so little from preceding years, as to be of not much value, excepting in the last-mentioned deviation, indicative of the dryness of the atmosphere, which I shall again refer to. The small quantity of aqueous vapour present enhanced the intrinsic weight of the air. Here, it may be remarked, we have one physical condition favourable towards the continuous suspension of foreign matters, still further favoured by the inconsiderable range of the atmospheric pressure, which was from 29·46 inches on the 18th of August, to 30·22 inches on the 22nd, giving only=(a range of) 0·76 of an inch (Greenwich) and 29·67 inches on the same day, to 30·24 inches on the 21st = a range of 0·57 of an inch at Camberwell. The atmospheric pressure (Camberwell) for the week ending September 5 was 29·82 inches, the range 0·015 of an inch; and for the week ending Sept. 12 it was 29·55 inches, the range 1·043 of an inch; being lowest on the 11th, (28·982 inches,) contemporaneously with the storm &c. before mentioned. The marked decline of cholera, subsequently, is very significant, and points" (says our author) "to a close connexion with the condition of the atmosphere, more particularly with the rapid fall of temperature, which was as low as 46° on the 12th, giving an extreme range, from the 6th to the 12th, of 25°.

"We shall find that the hygrometric state of the atmosphere presents one of the most remarkable deviations, it being found exceedingly dry by the appropriate tests. The evaporation and dew points were below their average value, being 57°·3, 53°·0, respectively; those of eight preceding years, in the month of August, being 57°·7, 55°·4, average, respectively. The weight of water in a cubic foot of air was, for August, 1849, 4·8 grains; that for 1841—48 being 5·1 grains. The additional weight of water required to saturate a cubic foot of air was for the same month in 1849, 1·8 grain; that for 1841—48 being 1·0 grain. The degree of humidity for 1849 being 0·727 inch; for 1841—48 being 0·837 inch. The numbers given in connexion with the evaporation and dew point, &c., indicate a less average weight of water in the air; and the additional weight required (0·8 gr.) implied great dryness. The degree of humidity was less by 0·110 inch than the average value. In this month of August, 1849, only half an inch of water was collected from three days' rain; (0·59 inch from twelve days' rain at Camberwell;) that falling for the same time in the years 1841—48 being 2·8 inches from fourteen days' rain. In the week ending Sept. 5, 0·08 inch of rain fell, (Camberwell;) and in the week ending on the 12th, 0·10 inch of rain fell, chiefly on the 11th.

"The currents of wind were feeble in force. It may be remarked, that a south-west wind blew for fourteen, and a west wind for seven other days of the month. At the beginning of the month the sky was frequently cloudy, but at times without clouds; at the latter end it was always overcast, and attended with a hazy atmosphere. The remarkable convulsion of the elements about the 11th evidently turned the scale of fatality afterwards. Happening to be near Dublin while cholera prevailed there, I well recollect the disappointment I experienced at having the picturesque scenery of the county of Wicklow almost completely obscured, for days and weeks together, by a singular haze, which was unlike ordinary fog, and appeared to be not readily dissipated by wind. A bluish mist was prevalent in London during the raging of cholera, and the air in both localities was for the most part negatively electric, and the electricity small in amount.

"Such a state of the atmosphere as that indicated by the above particulars would greatly facilitate the suspension and accumulation of noxious matters, which, without this favourable medium, might be in operation, as excitants of disease. It will be remembered that the law of the rapid diffusion of gases, propounded by Professor Graham, does not apply to more ponderous particles. The remarkable state of the atmosphere recounted is exactly such as, *à priori*, would be deemed favourable to the diffusion of an organic poison, and sad *experience* has but too truly confirmed this deduction.

On the Efficacy of Vaccination as a Preventive or Means of Amelioration of Small-Pox. By T. P. FLETCHER, Esq., Surgeon, Bromsgrove. 12mo., pp. 13. THE LANCET Office.

IN reference to the views lately promulgated by Dr. Gregory, Mr. Fletcher announces his opinion, that infantile vaccination exerts no more power of prevention before the access of puberty than afterwards; but he cites no special cases in proof of his position. He states that the late Mr. Cowell, a surgeon of Bromsgrove, used to recommend the practice of inoculation after vaccination, and that he (Mr. Fletcher) is acquainted with several aged persons who were thus treated, yet who do not recollect the occurrence of any eruption such as is mentioned by Dr Gregory. The inoculation, in fact, did not propagate small-pox—"there was only a pustule in the part punctured; and the parties, although repeatedly exposed to infection, have never taken the small-pox." But, as if to show how much idiosyncrasy seems to influence the efficiency of vaccination, the author adds, that after having been vaccinated thrice—the last time at seventeen years of age—he had subsequently caught modified small-pox.

Mr. Fletcher is, however, so much an advocate for the wholesome practice of vaccination at an early age, as to suggest that "the legislature should make it a half-crown penalty (to be enforced by the police) for any person to have a child above a year old unprotected by vaccination." He is critical on Dr. Gregory's estimate, that the number of deaths from small-pox after vaccination is five per cent. He calls attention to statistics published in his own name in THE LANCET of the year 1849, from which it would appear that the average number of such deaths is only one in 5580. Even the average of deaths from small-pox after inoculation is, he says, not more than one in 250.

Amongst the conclusions drawn by Mr. Fletcher are the following: That vaccination extends the chances of a child attaining full age, as compared with a child unprotected, in the proportion of 1395 to one. Should a person, after vaccination, take small-pox, it diminishes the suffering during the disease, and the danger of marks or blindness, &c., in the above ratio. (?) Vaccination reduces the number of persons with small-pox, and hence the power of spreading the disease; and in those who take small-pox it diminishes the power of its propagation, by mitigating its virulence. And the author draws an inference, that "those who have been vaccinated have a just right to demand that *all* should be vaccinated."

On Vaccination after Vesication; and an Instance of Rapid Effects produced by Tartarized Antimony, absorbed from an Abraded Surface. By MICHAEL HEALY, M.D., Ennis. Fcp. pp. 3. THE LANCET Office.

DR. HEALY writes in commendation of the practice of vaccination through an absorbing surface, abraded by the application of a blister, as by the tela vesicatoria and Abentspierre's blistering tissue. The latter he considers to be a better agent for the purpose of laying bare the cutis vera than the ordinary blister, because, as he says, it gives much less pain, and its use is not attended by urinary irritation, the apprehension of which, small as the vesicle might be, is not entirely unworthy of being taken into account, because of the tender age of those who are the usual subjects of vaccination.

While on the subject of the endermic application of agents, Dr. Healy mentions a remarkable case of speedy absorption which had recently occurred in his practice. A man, aged about fifty years, who had experienced a fall on the right side about two days previously, complained of pain on that side, increased by a full inspiration, or on suddenly shifting his position; but no lesion of the lung or pleura was to be detected with the stethoscope. Fomentations and purgatives diminished but did not subdue the pain.

"I supplied," says Dr Healy, "a small blister to the side; and as the raw surface thus obtained seemed disposed to heal rapidly, I applied to it, in the shape of dressing spread on lint, the tartarized antimony ointment, of the usual strength. In about three hours, severe vomiting, with general depression, came on; the pulse was small, quick, and weak; the surface more cool than natural; and the face bedewed with clammy moisture. It struck me at once that these symptoms were referable to the absorption, through the blistered surface, of tartarized antimony. I had the dressing immediately removed, the part fomented and sponged with water as warm as could be borne, and, after a little time, a stimulant was administered. Soon after the removal of the dressing the vomiting ceased; the pulse got up; the feeling of prostration, which previously was very great, disappeared; and in a few hours the man was quite well. I never before saw, nor do I remember to have heard or read of, a case in which the endermic use of tartarized antimony produced a train of symptoms exactly such as might be expected to follow its introduction into the stomach."

A Standing Navy: with some Remarks on Naval Titles, Naval Courts Martial, Officers' Messes. London: Longman & Co.

IT is with much satisfaction that we notice a series of very excellent letters, extracted from the *Morning Herald*, for the reformation of her Majesty's naval service, in praise of which we need say but little. A careful perusal will proclaim their value. A more valuable *brochure*, so intimately blended with our national welfare, has not appeared for some time, and written in a style convincing, temperate, and truthful. It is justly desired to abolish the Roderick Randomism which still clings to our wooden walls, and the agitation of the assistant-surgeons of the navy has, we have reason to believe, convinced the liberal and indefatigable author, that a determined leader is only required to reform and extinguish "customs and usages, which render the most important arm of the public service, in reality, the most unpopular, instead of, as it might be, the most eagerly sought after. Many topics contained in these collective letters are beyond the province of the medical journalist, and therefore we are precluded from introducing here a lengthened review of the work before us, which, however, for its merits, we strongly recommend to the attention of the reader.

On the Successful Treatment of Acute Articular Rheumatism with Citric Acid in place of Lemon-Juice. By D. M'Intyre, Esq., M.R.C.S., London. Post, pp. 4. The Lancet Office.

A case in point is cited by Mr. M'Intyre as having somewhat recently occurred in his practice, and as illustrative of the good effects of the treatment above named. The patient, aged nineteen years, laboured under an attack of acute rheumatism, "pulse 130, tongue white and furred, urine rather scanty, bowels constipated, perspiration profuse; severe pain, swelling, and tenderness of the right ankle-joint." Ordered a dose of calomel and colocynth at night, and an aperient draught on the following morning.

Next day the patient was little, if anything, improved; "pulse 120, tongue still coated, urine more copious, specific gravity 1010, great pain in the right ankle, knee, and shoulder-joint." He was ordered citric acid three drachms, in eight ounces of water, of which an ounce was to be taken every four hours. To this mixture twenty drops of sedative solution of opium were added on the day ensuing. The pains now became more erratic, attacking partially the left side of the body, but they were less severe. Another dose of mercury and colocynth, and a mustard plaster over the scrobiculus cordis, to combat a slight uneasiness in that region, appear to have been the only remedies employed, besides the citric-acid mixture, which was continued until all the acute symptoms had subsided. Mr. M'Intyre considers the results of this case as very satisfactory, as, from the period of attack to that of convalescence, it occupied little more than fourteen days.

Report of a Case of Rupture of the Bladder and Descending Colon, caused by Violence; Death, and Necropsy. By W. H. Hole, Esq., M.R.C.S., &c. Fenny Stratford. Post, pp. 4. The Lancet Office.

The author was called, on the morning of the 2nd of December last, to attend a man who had shortly before received a kick from a cart-stallion in the hypogastric region. Some castor-oil had been administered, previously to the surgeon's arrival, which had produced a copious evacuation from the bowels. No mark of injury was perceptible externally, "but there were considerable hardness, and pain on pressure, extending from the umbilicus to the pubis, which latter was uninjured." As soon as reaction came on, twenty-four leeches were applied over the seat of the injury, followed by warm fomentations, and a hot bran-poultice. In the evening, no amelioration being manifested, the patient was put into a warm hip-bath; the catheter being passed, about half an ounce of urine was drawn off, when first the instrument entered the bladder. A dose of calomel and Dover's powder was prescribed. Next morning the symptoms of peritonitis were all aggravated; pain continued without cessation; the abdomen was distended and tympanitic, and vomiting had set in. The catheter was again passed, with a result similar to that on the former occasion: about an ounce of urine, but no more, had been passed during the night; there had been no further dejection from the bowels. An enema now administered brought away a copious discharge of feculent matter; and the vomiting was temporarily relieved by morphia and hydrocyanic acid; but the man progressively sank, and died about fifty hours after the receipt of the injury.

At the post-mortem examination, the abdominal cavity was found to contain a large quantity of fluid, mixed with feculent matter; and the traces of extensive inflammatory action were visible, the intestines being completely glued together by coagulable lymph. "There was a rupture of the bladder (which was quite empty) at the lower and posterior part of its body, directly opposite the promontory of the sacrum, which projected forward to a remarkable degree, that bone forming a very acute angle with the last lumbar vertebra, so that the bladder might easily have been driven against it and ruptured when at all distended."

A laceration of the descending colon, one inch and a half in length, was also found above the sigmoid flexure, and considerable discoloration both above and below this wound.

Mr. Hole remarks, that the evacuation produced by the enema must have consisted only of the contents of the intestine below the place of rupture; and that the jet of urine which followed each introduction of the catheter was probably only a small quantity that had gravitated to the inferior part of the bladder.

The Use and Abuse of Arsenious Acid as an Agent for Destroying the Dental Pulp and Nerve, Curing the Toothache. By A. C. Castle, M.D., Surgeon-Dentist, New York.

The author points out the terrible results of the indiscriminate use of large quantities of arsenious acid for the destruction of dental pulp. He shows, that however carefully and completely it may be preserved within the decayed cavity of a tooth from direct communication with the process of insalivation, it will gradually destroy the nervous fibrils within the fangs of the tooth, and thence penetrating to the periosteum and alveolus, will produce its characteristic and fearful effects on those structures. Instead of relieving toothache, the first consequence of its application is the increase of pain to a frightful and almost unbearable extent. Such torture cannot, however, remain long, without producing intense inflammation, which in most instances is followed by exfoliation of the alveolus, and its concomitant miseries. Dr. Castle, however, himself approves of the use of arsenious acid in very minute quantities, but not until after the nervous pulp has been paralyzed and destroyed by an agent more sudden and violent in its action. His plan is first to remove the diseased dentine from contact with the nerve; then to force a small wire of gold, which has been dipped in nitric acid, as far down as possible into the cavity of the tooth, which is attended with very little pain; he next inserts a pill of white soap, containing one fiftieth of a grain of arsenious acid, and covers this with wax or cotton dipped in creosote. After a week or two, the tooth, no longer tender, is fit to receive the stuffing of amalgam or gold leaf. The author proceeds to detail three cases, in which arsenious acid was freely applied: extreme pain was occasioned, followed, in the two latter cases, by violent inflammation and exfoliation of the alveolus; and he states that in fifty per cent of the cases so treated, abscesses formed at the apices of the fangs; and that in another thirty per cent., the teeth were eventually obliged to be removed, from their acting as foreign bodies, and causing much irritation. The author then remarks,—

> "I have never found that the action of arsenic upon the dental tissues was in any way modified, in whatsoever mixture or combination it may have been exhibited, whether intended as 'emollient,' 'palliative,' or 'preventive,' any more than these combinations could or would be expected to produce such results were they to be taken internally in cases of suicide, or administered by the murderer as a cover, or to prevent the usual symptoms of arsenic in such cases."

We are inclined to believe that, entertaining these opinions, Dr. Castle is advising a mode of treatment which a matured judgment should consider as too dangerous, under any circumstances, for general use.

The author has never found it necessary to repeat the application of the arsenious acid; but with every care and attention, we are inclined to agree very cordially in the concluding paragraph of the paper:—

> "A practice at all times to be reprehended, as being alike disastrous to the tooth as well as the health and comfort of the patient."

Essays and Notes on the Physiology and Diseases of Women, and on Practical Midwifery. By John Roberton, formerly Senior Surgeon to the Manchester and Salford Lying-in Hospital. 8vo, pp. 530. London.

It may perhaps, by some, be objected to Mr. Roberton, that his work does not embrace the whole subject of midwifery, and that even upon those points which he has dwelt upon, he has not availed himself of some of the more modern works on the subject. But we do not regard this as a fault; on the contrary, we are glad to perceive so much in the practical part of the work which may be justly regarded as the result of the author's own experience. The charity with which Mr. Roberton was connected for upwards of eleven years, delivered 43,500 women, so that it will be evident that he speaks from a wide field of experience. Though occasionally quaint in style, he is seldom or never obscure, and treats the various subjects in his work as might be expected from a thoroughly practical man. He may safely be said to be one of those who write *from*, and not *for* practice. It is seldom, at the present time, one meets with a work, the practical part of which is so thoroughly the author's own. His observations on the use of the forceps, on turning, secondary uterine hæmorrhage, and other points of practice, are very valuable. A considerable portion of the work is occupied with a most elaborate inquiry with regard to puberty, and the influence which climate exerts upon it. It is not too much to say that this portion of the work is the most complete account of the subject of which it treats, in this or any other language: his researches, indeed, on this very interesting subject are well worthy the high compliment paid to them by Dr. Prichard, in his "Natural History of Man." Mr. Roberton's work should be in the library of every accoucheur.

Elements of Materia Medica; containing the Chemistry and Natural History of Drugs, their Effects, Doses, and Adulterations, with the Preparations of the British Pharmacopœias. By W. Frazer, M.D. 8vo., pp. 466. London: Baillière. Dublin: Fannin.

Dr. Frazer's work is a good compilation, and effects the object for which it was intended—viz. "of affording the student in materia medica a moderate-sized book on this important subject, which would contain sufficient chemical and botanical information for the purposes of his examinations; and also a full account of the appearances and effects of medicines, their doses, adulterations, and the antidotes suitable for those that possess poisonous properties."

Cheltenham and its Resources, Mineral Waters, Climate, &c. By Edwin Lee. 8vo, pp. 135. London: Whittaker & Co.

This little work will doubtless have the effect of directing the attention of many to the value of Cheltenham as a resort for invalids. We should think that the enterprising druggist, who, it would appear, has had much to do with the publication of the work, is fully satisfied with Mr. Lee's "Prize Essay," seeing that out of nearly eighty pages of advertisements, he occupies nearly one-half with an account of his "cough-drops," "dinner-pills," &c.

General Index to the First Thirty-three Volumes of the Medico-Chirurgical Transactions. 8vo, pp. 336. Longman.

A very carefully-prepared volume, and one which must prove of great service to every possessor of the Society's *Transactions.*

The Philosophy of Living. By Herbert Mayo, M.D. Third Edition, revised. Fcp. 8vo, pp. 282. London: Parker.

Dr. Mayo is a most entertaining, and, it may be said, instructive writer. His work is a gossiping little volume on Constitution, Diet, Exercise, Sleep, Bathing, Clothing, Air and Climate, and Health of Mind. With much that is good and practical, however, it is to be regretted that occasionally the peculiar and *outré* views of the author, on some points in physiology, exhibit themselves. With these exceptions, the work is a really valuable one; and, even with them, will no doubt find numerous readers.

Dr. Hooper's Physician's Vade-Mecum; or, a Manual of the Principles and Practice of Physic. New Edition. By W. A. Guy, M.B. Fcp. 8vo, pp. 576. London: Renshaw.

This valuable work has received many additions and alterations in the present edition. The first part more particularly deserves notice in this respect, as it has been nearly re-written, has been enriched by several wood-cuts, chiefly illustrative of urinary deposits, and contains a chapter on Hygiene. The "Vade-Mecum" has been brought up to the knowledge of the present day with care and ability by its laborious editor.

On Cements for the Teeth. By J. L. Levison, Esq. Brighton.

Mr. Levison, of Brighton, comments in terms of deserved severity, on dentist's handbills, such as one which he encloses to us, relative to a certain "succedaneum." On the matter of cements generally, Mr. Levison states, "I have often had to impress the unfitness of using alloys and amalgams in the mouth," and he refers to a paper which he published in 1829, in which—

> "By well-observed facts, it was shown, that whenever *two* metals are used, even gold and silver, there is invariably a chemical change in the saliva, by the formation of an acid *sui generis*, as shown by the removal of the lime of the teeth. In The Lancet, of the year 1831, I entered into greater details, showing that mercury and tin, mercury and silver, or bismuth, tin, and lead, (compositions which form the succedaneums and fusible cements of dentists,) produced still more destructive consequences. These papers," he adds, "were published long before the American dentists waged war against amalgams, or inflicted on those who used them the pains and penalties of drumming the delinquents out of those associations which ornament the profession of dental surgery on the American continent."

Mr. Levison concludes his communication with an anecdote, to show that the pretensions of quacks often make thoughtless persons insult men of principle, and qualified practitioners.

> "A lady called to have a tooth stopped: without waiting to ask the dentist what he used, she said, 'I must have it stopped with cement.' 'I do not use it,' was the reply; when the patient said somewhat pertly, 'I suppose you can't' The gentleman felt indignant at this gratuitous insult, and told the lady that 'it certainly required very great skill and profound knowledge to put something *soft* into a cavity; that he would therefore insist on her remaining to see him do such a marvellous feat,' and having, before her face, made an amalgam of tin, he said, 'You perceive I can make the cement, but I never have, nor ever will use it.' The lady coloured deeply, and asked him, in more respectful language, what he did use? He told her pure gold. She had her tooth filled with gold, and retained it for some years without pain or fœtor."

Analytical Sanitary Commission.

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SOLIDS AND FLUIDS
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ARROW-ROOT,

AND ITS ADULTERATIONS.

The term "arrow-root" was originally applied to the rhizome or root of the *Maranta arundinacea*, in consequence of its supposed efficacy in counteracting the effects of wounds inflicted by poisoned arrows.

Of late years, the signification of the term has been much extended, and it is now employed to designate almost every fecula which bears any resemblance to true or Maranta arrow-root, no matter how dissimilar the plants may be from which it is obtained.

Attending this enlarged use of the word arrow-root are certain disadvantages. Many persons consider that all arrow-roots constitute one and the same article, varying only in quality, and according to the place from which they are procured, while but few persons are aware that there are several distinct kinds of arrow-root, the produce of distinct plants, great uncertainty and confusion being thus created.

To increase this confusion, the word "genuine" is often prefixed to the term "arrow-root," and as there are several kinds of arrow-root, so must there be several genuine arrow-roots, varying in value from a few pence to two or three shillings the pound—from, in fact, the genuine Maranta arrow-root to the genuine potato arrow-root. With these particulars the public at large is but ill acquainted.

The difficulty and confusion is still further enhanced by applying to the arrow-root, as is generally done, the name of the place from which it is obtained: thus we have genuine West India, Jamaica, Demerara, Bermuda, St. Vincent, East Indian, Brazilian, African, Guinea, Sierra Leone, Portland, British, and a variety of other arrow-roots. Some persons suppose that each of these names represents a different kind of arrow-root; others imagine that they all indicate one and the same production; while the fact is, that in some cases, as with the East India arrow-root, one name may be indiscriminately applied to two distinct kinds of arrow-root, and in others, six or eight names all signify but a single kind or species, as with the West India arrow-root. This great variety of names is objectionable, not merely because it tends to confuse the public, but because it offers to the fraudulent great facilities for adulteration, and of which, as we shall see hereafter, they have not failed to avail themselves.

The remedy for this state of things is simple: each really distinct arrow-root, that is, every arrow-root which is the product of a distinct plant, should be designated by the name of the species from which it is derived, as the Maranta, Curcuma, Tacca, Manihot, Arum, Potato, &c.

The employment of these terms should not be optional, but *compulsory*, for the better protection of the public against fraud in this article of food. The propriety of this suggestion will become still more evident as we proceed.

We shall now describe each kind of arrow-root separately, observing of them all, that when pure they are non-nitrogenized substances, and therefore adapted to the formation of the fat of the body, and to the maintenance of its temperature and of respiration.

MARANTA ARROW-ROOT.

Maranta arrow-root is obtained from the rhizomes of the *Maranta arundinacea*, one of the family of the *Marantacæ.*

A rhizome is an underground jointed stem placed horizontally in the earth, giving off from its upper surface, branches, and from the lower, roots; the starch or fecula is contained in the joints of the rhizome, being deposited in innumerable minute cells.

The following account of its preparation is given by Dr. Pereira in the new and greatly improved edition of his "Materia Medica:"—

"The starch, or fecula, is extracted from the roots (tubers) when these are about ten or twelve months old. The process is entirely a mechanical one, and is performed either by hand or by machine.

"In Jamaica it is procured as follows:—The tubers are dug up, well washed in water, and then beaten in large, deep, wooden mortars to a pulp. This is thrown into a large tub of clean water. The whole is then well stirred, and the fibrous part rung out by the hands and thrown away. The milky liquor being passed through a hair-sieve, or coarse cloth, is suffered to settle, and the clear water is drained off. At the bottom of the vessel is a white mass, which is again mixed with clean water, and drained; lastly, the mass is dried on sheets in the sun, and is pure starch.

"In Bermuda, the roots are first deprived of their paper-like scales, and then rasped by a kind of wheel-rasp, and the fecula well washed through sieves and carefully dried.

"Upon the Hopewell estate in the island St. Vincent, the carefully-skinned tubers are washed, then ground in a mill, and the pulp washed in tinned copper cylindrical washing machines. The fecula is subsequently dried in drying-houses. In order to obtain the fecula free from impurity, pure water must be used, and great care and attention paid in every step of the process. The skinning or peeling of the tubers must be performed with great nicety, as the cuticle contains a resinous matter, which imparts colour and a disagreeable flavour to the starch. German silver palettes are used for skimming the deposited fecula, and shovels of the same metal for packing the dried fecula. The drying is effected in pans covered by white gauze to exclude dust and insects."

Pure and unadulterated Maranta arrow-root should be of a dull and opaque white colour, crepitating or crackling when pressed between the fingers, and when treated with about twice its weight of concentrated hydrochloric acid it should yield an *opaque* paste.

The above characters and appearances are deceptive, since they may all be assumed by certain of the other arrow-roots; the microscope, however, affords a ready and certains means of distinguishing this arrow-root from all other species, and these again from each other.

Examined with that instrument the granules or particles of starch are found to be usually more or less oblong and ovate, but sometimes mussel-shaped, or even almost triangular; they vary considerably in size, but each of the larger granules is marked by a number of delicate concentric lines; at the broad or large extremity of each a distinct spot is visible, ordinarily considered to be a cavity, and denominated the "hilum;" this spot is sometimes circular, but most frequently is seen as a short, sharp line, running transversely across the granule; it furnishes a most distinctive feature by which Maranta arrow-root may be at all times very readily identified.

When boiling water is added to Maranta or any other arrow-root, its physical condition undergoes a great and surprising alteration, the nature of which may be clearly traced by means of the microscope. A table-spoonful of arrow-root, on which a pint of boiling water is poured, immediately looses its whiteness and opacity, becomes transparent, and the entire of the water as it were converted into a thick and jelly-like substance. If a little of this be diffused through cold water, and examined with the microscope, it will be seen that the starch granules are altered amazingly; they have increased to twenty or thirty times their original volume; they are more or less rounded; the concentric lines and the hilum are obliterated; the membrane of each granule is ruptured, and a granular matter has escaped from its interior.

The appellations which have been bestowed upon the Maranta arrow-root are very numerous; their use ought to be wholly discontinued, for the reasons already assigned; thus it is sometimes called West India arrow-root, Jamaica, Demerara, Bermuda, Berbice, St. Vincent arrow-root, &c. The impropriety of denominating it West India arrow-root is shown by the circumstance that the Maranta plant is cultivated in the East as well as the West Indies.

The duty on this arrow-root is 2*s.* 6*d.* the cwt.; its price to the public varies from 1*s.* to 3*s.* 6*d.* the lb.

CURCUMA ARROW-ROOT.

Curcuma arrow-root is obtained from the tubers of the *Curcuma angustifolia*, one of the family of the *Zingiberaceæ.*

The mode of its preparation does not differ materially from that practised in obtaining the fecula from the tubers of the Maranta arundinacea, and which has already been described.

Two qualities of Curcuma arrow-root are imported into this country from the East Indies, principally from Calcutta, a white and a brown variety.

The white is the best; the powder when pressed between the fingers, feels less firm, and does not crepitate to the same extent as the Maranta arrow-root; the two species can, however, be distinguished from each other only with certainty by means of the microscope.

Examined with that instrument, the granules appear elongated, and are irregularly ovate; being flat, they present but little lateral shading; the lines which mark the surface are tolerably distinct, but they describe segments of circles only, and the hilum, which is usually very indistinct and sometimes invisible, is placed at the narrow extremity of each granule; in size the particles vary considerably, but many of them much exceed the largest contained in Maranta arrow-root.

Curcuma arrow-root, therefore, is distinguished from Maranta arrow-root by the size and form of the granules, the position of the hilum, and the incomplete rings seen on the surfaces of the granules. Curcuma arrow-root is commonly called East India arrow-root, the same name being applied to Maranta arrow-root: cultivated in the East and sent to this country, we have thus two distinct species of arrow-root, of different qualities and value, confounded together under one name.

TACCA ARROW-ROOT.

Tacca arrow-root is obtained from the tubers of *Tacca Oceanica*, a native of the South Sea Islands, after the chief of which, Tahiti or Otaheite, it is usually designated.

According to Ellis,* it grows on the high sandy banks near the sea, or on the sides of the lower mountains.

In "Pereira's Elements of Materia Medica" the following account is given of the preparation of the fecula:—"At Tahiti this is procured by washing the tubers, scraping off their outer skin, and then reducing them to a pulp by friction on a kind of rasp, made by winding coarse twine (formed of the cocoa-nut fibre) regularly round a board.* The pulp is washed with sea-water through a sieve, made of the fibrous web which protects the young frond of the cocoa-nut palm. The strained liquor is received in a wooden trough, in which the fecula is deposited; and the supernatant liquor being poured off, the sediment is formed into balls, which are dried in the sun for twelve or twenty-four hours, then broken and reduced to powder, which is spread out in the sun to dry."

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* Polynesian Researches.

Tacca arrow-root is a white starch-like powder, having a slightly musty odour. The granules resemble somewhat those of sago-meal, but are very much smaller; when viewed sideways, they are muller-shaped, with truncate or dihedral bases, and when seen endways they are circular, and occasionally angular or polyhedral. The rings are few and indistinct, and the hilum circular, sometimes fissured in a stellate manner.

Tacca arrow-root has been sold in London for some years, in packages, as "arrow-root prepared by the native converts of the missionary stations in the South-sea Islands." It is sometimes spoken of as "Williams's arrow-root," after the missionary of that name.

The slightly musty odour which it usually possesses shows that it is not in general prepared with quite the same amount of care as is bestowed on the Maranta arrow-root.

MANIHOT ARROW-ROOT.

The flour or farina of the *Manihot utilissima*, the plant which yields "tapioca," is sometimes imported into this country, as an arrow-root from the Brazils, unde rthe name of "Brazilian arrow-root."

To the application of the word arrow-root to the fecula of this plant there exists no objection, since it resembles closely the other arrow-roots in its properties.

The description of the *Manihot utilissima*, Cassava or tapioca plant, and of the manner in which the fecula is first obtained, and subsequently converted into the substance called "tapioca," we shall reserve until we come to treat, in a distinct report, upon "Tapioca and its adulterations."

Manihot arrow-root, like the other kinds already described, may be distinguished by the size, form, and other characters of its constituent granules, which resemble somewhat closely those of Tacca arrow-root, but are considerably smaller, with a large proportion of granules which exhibit a circular outline as seen in the field of the microscope; the hilum is usually fissured.

The price of tapioca to the public varies from 6*d.* to 10*d.* the pound; now, as greater time and labour are expended in the manufacture of this substance than is required for the preparation of the arrow-root, the price of the latter ought to be still lower.

POTATO ARROW-ROOT.

Potato-flour or arrow-root, sometimes called *British* or *English* arrow-root, is prepared by rasping and grinding the well-cleansed tubers of the *Solanum tuberosum* into a pulp. This is repeatedly washed, and the water strained through a sieve, which retains the cellular tissue, and allows the starch to pass through. After a time, the starch is deposited at the bottom of the vessel, again well washed, and finally dried.

Potato-starch forms a white and somewhat glistening powder, which crackles like genuine Maranta arrow-root when pressed between the fingers.

The granules vary greatly in size and shape: some are very small and circular, others large, ovate, or oyster-shaped. The larger granules exhibit numerous very distinct concentric rings, and the hilum, which is small, but well defined, is situated in the broad extremity of each granule: not unfrequently granules may be observed of an oval form, divided by a fine line into two portions or segments, each of which is provided with a hilum. We have noticed the same form of granule in some of the other arrow-roots, particularly the Tacca species.

The granules of potato arrow-root differ from those of the previously-described starches, in their larger size, in form, and in the number and distinctness of the concentric rings which each granule presents to view, and which are indicative of a laminated structure.

No means exist by which potato arrow-root may be distinguished so satisfactorily as by the microscope; yet it is proper to state, it has been observed that this substance is acted upon by certain reagents in a manner different from Maranta arrow-root: mixed with twice its weight of concentrated hydrochloric acid, Maranta arrow-root yields an opaque paste; whereas that formed with potato arrow-root is transparent and jelly-like; when boiled with water and sulphuric acid, the latter evolves a peculiar and somewhat disagreeable odour, which is not the case with the former, when treated in the same manner; lastly, alcohol extracts from potato-flour an acrid oil, not contained in the fecula of the Maranta plant.

Potato arrow-root is the cheapest of all the starches regarded as arrow-roots, the retail price varying from 4*d.* to 6*d.* per pound. Although a cheap and useful article of diet, it is of course very inferior to Maranta arrow-root.

ARUM ARROW-ROOT.

Arum arrow-root is procured from the tubers of the *arum maculatum*, the common "cuckoo pint," "wake robin," "lords and ladies:" it is prepared chiefly in Portland island; hence it is generally called "Portland arrow-root."

The mode of its preparation is very similar to that adopted with the other arrow-roots: the tubers are pounded in a mortar, the pulp repeatedly washed, and the water subsequently strained. As the tubers are very acrid, great care is required in the washing and straining of this arrow-root, so that the acridity may be completely removed.

The starch granules of the arum arrow-root are very small, and, except in size, they resemble very closely those of Tacca arrow-root; but this difference is sufficiently constant and considerable to ensure the ready identification of the two kinds.

ON THE ADULTERATION OF ARROW-ROOT.

The adulterations to which arrow-root is subject consist in the mixing together of arrow-roots of different qualities and prices in different proportions, in the substitution of an inferior for a superior arrow-root, and in the addition to a genuine arrow-root of other starches not usually recognised as arrow-roots, and of low price.

SPECIAL VALUE OF THE HUMBUG HOMŒOPATHY.

To the Editor of THE LANCET.

SIR,—May I request space in the columns of THE LANCET for the following case, which remarkably illustrates the real value of homœopathy and homœopathic medicines.

A lady (whose name I will subjoin, *in confidence*, to authenticate my statement) complained to a friend of being ill, and was advised to take some globules of nux vomica, receiving at the same time a small bottleful, with directions to take *two* at bedtime. Placing the bottle in the pocket of her dress, the lady returned home, and being fatigued, went to sleep in a chair. Upon waking, she found, to her horror, that one of her children had taken the bottle from her pocket, and supposing it to contain "hundreds-and-thousands," had wallowed the whole!

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* Ellis states that the rind of the root is scraped off by a cowry shell, and the root then grated on a piece of coral.

I need not tell you how anxiously the child was watched, and it is almost unnecessary to add that no evil resulted from the enormous dose which had been taken. I remain, yours, &c.,

Minerva-terrace, Islington. JOHN COWARD.

Medical Facts, News, Items, &c.

BUTTON-LOCK FOR SECURING THE DRESS OF THE INSANE.

By J. W. METCALFE, Esq., Medical Superintendent of the York Asylum.

MR. METCALFE, who has forwarded to us one of these button-locks, remarks,—

"About three years since, admitting a patient who had been constantly kept fastened on account of a habit of undressing himself, I at once liberated him, and contrived a button-lock to secure his dress—a description and sketch of which may possibly be of use to some of your readers, should you deem them worthy of insertion in THE LANCET. Its advantages are—

1st. That from its shape it is not easily pulled from the dress.

2nd. That it may be used as an *ordinary button*, or as a *lock*.

3rd. Its appearance is less offensive to the eye than the usual means of fastening the dress in such cases.

It consists of a head of the size and appearance of an ordinary button, having a hole in the centre, through which passes a small screw, in place of the ordinary button-shank; this is screwed into an under piece of metal fixed in the dress. The head of the screw is square, and level with the surface of the button, a small key being used to tighten it. The usual button-hole is sufficient."

The invention really is ingenious and simple, and from the specimen in our possession, appears well adapted for the purpose intended.

THE BIBERON, A NEW FEEDING-BOTTLE.—Elam, Oxford-st.—We have seldom seen anything more beautiful or better adapted for its use than the Biberons, or feeding bottles, for infants, invented by M. Dorbo, of Paris, and introduced into this country by Mr. Elam, of Oxford-street. Though they are of recent invention, they have obtained great celebrity, and have come into general use in Paris. The nipple of the Biberon is made of cork, the superiority of which over Indian-rubber, or calves' teats, is at once apparent. It has not the repulsive taste or smell of the former, neither can it putrefy, as the latter always do. The cork-nipple being hollow and elastic, the flow of milk is never interrupted; but calves' teats and India-rubber nipples becoming flattened by the pressure of the child's lips in sucking, the supply of milk is stopped—a very obvious disadvantage. The Biberon is so constructed, air being admitted through a delicate spiral tube, that the child cannot suck any air, which alone is a strong recommendation. The supply is regulated by a little ivory pin, which, if inserted into the tube, and fixed in either of the divisions for that purpose, diminishes the quantity, but if taken away altogether, enables the child to feed as fast as may be desirable. Lastly, the Biberon is clean, compact, portable, and very easily kept in order.

THE GENIUS OF THE LAMP.—Lieutenant Acherley, whose "wonderful lamp" we have before taken occasion to mention, was lately arraigned at the Glamorganshire Spring Assizes, at Swansea, for the manslaughter of Matthew Tingle, a collier, who had been severely burnt, near Aberdare. The prisoner "entered Matthew Tingle's house; said he had been sent by Mr. Oakley to see and take charge of the men who were burnt; and he proceeded to the extraordinary treatment of agitating Tingle's limbs, exposed his burned limbs and body to the air, and put a lamp under his nostrils, through which he was to breathe." A witness who was present during this part of the transaction, stated, "The lamp was lighted, and Mr. Acherley put it under the apron alongside of his face. He then told Tingle to breathe through his nostrils as fast as he could, and to play his arms and legs. . . . I moved his arms and his legs, as Tingle was stark naked, and the window was opened by Mr. Acherley's direction..... The man got worse from the time he had been so treated, and died the next day." It appeared from the evidence of Mr. David Davies, surgeon, of Aberdare, that he had previously had a chance of his life, and that the immediate cause of death was bronchitis. The rambling address of Acherley and his cross-examination of Mr. Davies were calculated to excite much amusement, but this was alloyed with the melancholy reflection that the life of a fellow creature had been sacrificed to the rankest quackery. *Populus vult decipi-decipiatur*, would seem, however, to be a ruling motto. "The jury, after ten minutes consultation, returned a verdict of *Not Guilty*. The finding was received with loud applause, which was instantly suppressed." —*Cardiff and Merthyr Guardian.*

TRANSFUSION IN UTERINE HÆMORRHAGE was interdicted in France two years after it was first introduced by Denis and Emerets, and attempts by a provincial judge were made quite recently to interfere with its performance, in virtue of the prohibition of 1668. Transfusion has nevertheless been recently performed by M. Nélaton at the Hôpital St. Louis, Paris, with success, though the patient died seven days afterwards of metro-peritonitis. The case was one of placenta prævia, the os being too rigid to admit the hand. Hæmorrhage went on more or less for seven hours, when M. Nélaton being sent for, he succeeded in turning and delivering, whilst the aorta was being compressed. The vein of a strong and robust young house-surgeon was then opened, and about eight ounces of blood transfused: the patient was at once freed from the choking sensation she had previously experienced, and perfectly recovered up to the seventh day.

L'UNION MEDICALE, mentions the death of two very eminent members of our profession—viz., Francis Charles Nagelé, the celebrated Professor of Midwifery at the University of Heidelberg, well known by his numerous works on obstetrics, who died in his 72nd year; and Conrad Martin Langenbeck, chief surgeon of the Hanoverian army, and Professor of Anatomy and Surgery at the University of Goettingen, where he erected at his own cost two splendid edifices, one the hospital for clinical surgery, and the other an anatomical school.

RENUNCIATION OF A LEGACY BY A SURGEON.—The late Mrs. Butler Cole bequeathed to Mr. Dixon, surgeon, of Preston, her medical attendant, the sum of £3000. That gentleman has, it is said, declined to receive the legacy, and has executed a deed of renunciation. This sum will be divided among the nephews and nieces of the deceased lady.—*Blackburn Standard.*

THE ACTONIAN PRIZE of 100 guineas has been awarded to Mr. Wharton Jones. There were 17 candidates. The essays were more than usually good.

Your obed. Servt.

Benj Travers

THE LANCET.

A Journal of Medical, Surgical, and Chemical Science and Practice, Criticism, Literature and News.

MR. WAKLEY, M.P., EDITOR. J. HENRY BENNET, M.D., J. WAKLEY, JR., SUB-EDITORS.

IN TWO VOLUMES ANNUALLY.

VOL. I. NEW-YORK, JUNE, 1851. No. 6.

NOTES
FROM
A COURSE OF LECTURES

Delivered at St. Thomas's Hospital,

BY GILBERT MACKMURDO, Esq., F.R.S.,

Surgeon to that Hospital,
and to the Royal London Ophthalmic Hospital.

LECTURE XVI.

On Preternatural States of the Iris; Glaucoma; Cat's Eye; Myopia; Presbyopia; Ill Effects of the Habitual Use of Glasses; Physiology of Adjustment of the Eye to Different Distances; Voluntary Power over the Iris; Glasses better than Pebbles for Spectacles; Non-perception of Different Colours; Hemeralopia and Nyctalopia; Hemiopia; Effect of Snow on the Eyes; Complementary Colours and Cause of the Phenomenon; Advantage of Neutral-Tint Glasses.

GENTLEMEN,—We have to consider first, this evening, different preternatural states or affections of the iris. Occasionally, patients are brought before us, who have no irides, or only one iris. The sight of the individual is generally very imperfect and weak; I have known instances of this peculiar deficiency at all ages, in the infant, the youth, and the adult; and I have also been informed by the friends of such patients, that others of the family were similarly affected. Sometimes the iris will exist tolerably perfect in one eye, and not at all in the other; or an imperfect iris may be noticed in each eye. Intolerance of any strong light, as well as indistinct vision, almost always accompanies these defects in formation. I have not seen these patients suffering from cataracts, but several such cases have been recorded. Two brothers and a sister, all under ten years of age, were brought to me some time since, thus affected; they were very short-sighted, and even that myopic vision was indistinct. We see more frequently a defect of the iris, to which the name of coloboma iridis has been given, wherein the pupillary margin is, as it were, abruptly broken through. This presents many varieties. The most common one is, where this deficiency is at the lowest and middle part of the edge of the pupil; and it appears, then, as if there were a drop of black fluid proceeding from the pupil downwards over the front of the iris. We also often notice a difference in the colour of a person's irides, without his having suffered from inflammatory action. This should be always recollected, inasmuch as a change of colour in the iris is generally mentioned by us as one of the characteristics of iritis. I have a patient now with this peculiarity in one eye, and in her case the lens is also opaque; she does not know what was the cause of this change in the colour of her iris, and it appears to have taken place as insidiously as did the formation of cataract, and without any suffering. I have also seen the iris spotted variously in both sound and unsound eyes, so that, of itself, it does not seem to be a characteristic of disease; and yet the friends of patients will point out these appearances with great dismay, thinking them indicative of serious mischief. There is a condition of the iris termed myosis, wherein the pupil is exceedingly contracted; in these cases the iris contracts very slowly, if at all; this usually occurs in weak or unhealthy persons, but it also occurs in healthy individuals after long-continued use of the eyes in minute objects. The sight is generally weak, and very often frontal and circumorbital pains are complained of. Different authorities have spoken of two forms of this condition of the iris—viz., of a paralytic and of a spasmodic myosis.

You are aware, I suppose, that the pupil is contracted, and turned upwards and inwards during sleep; it is also contracted under full doses of opium. The contracted pupil, which results from close occupation on minute objects, or with powerful glasses, is seldom overcome by treatment; it becomes permanent, and we term it the pin-hole pupil. In some persons, however, vision remains very distinct under these circumstances. When there are pains present, such as I have alluded to just now, or where the general health of the patient has suffered, some improvement may be effected by a judicious plan of treatment, and entire rest of the eyes. We term the reverse condition, mydriasis. This dilated condition of the pupil generally accompanies some form of amaurosis. In some cases we gain much credit by advising patients to use spectacles of which the frame is fitted with two pieces of black wood, having a small circular hole at their centres. This plan would of course not succeed if amaurosis existed.

There is much doubt as to the real causes of these opposite conditions of the pupil; but we cannot avoid associating them with an unhealthy state of the nerves of the eye. We apply stimulating applications and counter-irritants, and attend to the general health of the patients. In some cases we observe the pupil becoming gradually diminished; in others, we are disappointed. Venesection, in some few instances, may be beneficial, but in the majority I think it would be found very disadvantageous. The exhibition of ammonia, valerian, and the application of electricity, has been found of use.

We often observe patients' irides tremulous, and we are in the habit of assuming that the vision is somewhat imperfect in such cases; I have, however, seen several instances wherein I could not detect any failure in the sight. You will notice an undulation of the iris in these cases, in very various degrees, and at different times; and the same patient may present to our view either a tolerably steady iris, or one which flaps forwards and backwards like a loose sail. In some cases (and particularly in one now under my care) the pupil will contract and dilate well, and, also, the patient sees well, yet the irides are thus unsteady; but these instances are certainly the exceptions to the general rule. We do not generally observe any change in the appearance of the irides themselves. This condition often follows the extraction of a cataract, and particularly in cases wherein the hyaloid membrane has been diseased, and the vitreous humour was thus less confined, and having escaped during the operation, in greater or less quantity, had been replaced by aqueous humour. In such cases, almost every time the patient turns his eye from side to side, the iris will flap forwards or backwards, as I just now described, and with these patients the vision is seldom good.

The disease termed glaucoma has been referred to by me in a previous lecture. It was formerly described as a disease of the crystalline lens, and subsequently of the vitreous humour. The former opinion, which was long held, was upset, according to Dr. Mackenzie, by Brisseau, who had in a great measure formed his opinion in consequence of the dissection, by Marèchal, of the eyes of Bourdelot, physician to Louis XIV. This physician having become blind, had left orders that his eyes should be examined after his death. He had cataracts; but the vitreous humour was found to be of a yellowish colour; and reasoning chiefly on this case, Brisseau concluded that no operation would have benefited Bourdelot, and he then gave the name of glaucoma to this peculiar state of the vitreous humour, and this opinion was very generally adopted; but several years since, Dr. Mackenzie, in his most excellent treatise, entered very fully into this subject. He had dissected several eyes thus affected, and found that the crystalline lenses were generally of a yellow, yellowish-red, or reddish-brown colour, and chiefly so towards the centre. They were of a firm consistence, and generally transparent, but the vitreous humour was colourless, or yellowless, and very fluid. The hyaloid membrane, in all the cases he examined —and this is an important fact—had been destroyed by disease. The choroid was of a lightish-brown colour, and had very little pigment on it; and finally, the retina presented no trace of limbus luteus, or of the so-called central foramen.

But what are the symptoms and appearances in such cases? Circumorbital or even frontal pain is generally first complained of, and a general dimness of sight; the pupil has a greenish or yellowish-green appearance; and I recollect giving you, on another evening, Mr. Tyrrell's description of it—viz., that you seemed to be looking at the reflexion of the sun in a muddy pool of water. Others have described the appearance to be that of a bright piece of yellow metal, situated at the back of the eye. The vision gradually becomes worse, and the yellowish-green appearance is then more evident, and secondary cataract often forms. I am now speaking of chronic, and not of acute, glaucoma, to which I have at another time referred. The iris becomes sluggish in its motions, the pupil is dilated, and the retina eventually is insensible to light; there is, from the first, a general cloudiness of the humour, rendering it difficult to decide where the disease is principally situated; the globe of the eye is very hard and tense in most instances, and this is supposed to result from an excessive secretion of vitreous humour. The patients will, moreover, complain of muscæ of various kinds, also of numerous ocular spectra, and of sparks of fire darting across their eyes; and the retina is then seriously implicated also. Sometimes the pupils are not dilated, and then it is more difficult to distinguish between this disease and cataract; but if you dilate the pupil, by the application of belladonna, the greenish-yellow appearance will at once decide that it is not, at any rate, a simple cataract, capable of being benefited by an operation. The sight seems to be injured by the state of the retina, by the absence of the pigment, and thirdly, by the lens being partially dark. Cataracts may form, in these cases, either slowly or suddenly. The arteria centralis retinæ, which passes to the capsule, is affected by the destruction of the hyaloid membrane, and hence the opacity of the capsule and lens. I have seen, in such cases, a lens fall suddenly to the bottom of the globe, when the capsule has been lacerated; and in other cases I have seen the lens float about for months, or even years, after such an operation, giving rise, in some cases, but not always, to much pain and internal irritation. This disease is generally met with in elderly persons, and some authorities consider that indulgence in tobacco, or spirit-drinking, induces it; and the most melancholy consideration is this—that we know of no cure for it when it is at all far advanced. We apply counter-irritants, and we give calomel and opium, from the knowledge of their great utility in all inflammatory conditions of the eye; and we enjoin rest of the organ in every sense of the word. If we see the case in an early stage, a continuous antiphlogistic plan of treatment may be very advantageously pursued.

Whilst speaking of glaucomatous diseases, and of the peculiarly bright appearance at the back of the eye, I may mention that the celebrated Beer seemed to have included, under the name of cat's eye, the silvery reflexion in the eyes of old people, and also that appearance which we observe occasionally in children, resulting from the scrofulous and non-malignant depositions at the back of the eye, so well described by the late Mr. Tyrrell, and which I have already spoken of; the vision is not always though frequently impaired in these cases. The reflection is first observed when the infant is exposed to a moderate light at some distance from him, and when the observer stands near the light, and a little on one side. Mr. Tyrrell supposed that this affection existed in the choroid, or between it and the retina. Some of the cases which I observed with him were not at all benefited by treatment, and some few others appeared to be improved by a continued mercurial course. A very intelligent young surgeon, (Mr. Cumming,) who was a pupil at our Ophthalmic Hospital when these cases were under our notice, subsequently wrote a paper on this subject, which was read at the Medico-Chirurgical Society, in which he stated his opinion that the sound human eye was equally luminous with that of the dog or cat, if examined under favourable circumstances. His paper is an interesting one, and I should recommend your perusing it, as it is published in the Society's *Transactions*. From his experiments, he came to the conclusion that the reflection was in the choroid with its pigment, as the principal reflecting structure, and became increased in effect by the light returned from the retina and the concavity of the hyaloid body; and with regard to Beer's assumpitons, Mr. Cumming concluded that he was speaking of the reflection in a healthy eye at one time, and at another of cases in which the lymph had been deposited on the retina, and had presented the bright metallic appearance, and that this mere luminosity of the retina is in no case a sign of an altered condition. There is in the power of vision of different healthy eyes a great difference as to the distance at which individuals can read with comfort and distinctness, and hence the terms myopia or short-sightedness, and presbyopia or far-sightedness. Healthy persons generally read print distinctly at a distance varying from twelve to twenty inches. If it is necessary to bring the book nearer than six or eight inches, they are termed myopic; and, on the contrary, a person is styled presbyopic when he finds it necessary to remove it farther from him than he had been accustomed previously to do. Myopia may arise from a loss of adjusting power, or from an original imperfection in some of the refractive media; the cornea or the lens may be too convex, or the vitreous humour may be excessive in quantity, or these parts may one or all be preternaturally dense. Near-sighted persons see better in partial darkness than those who have more perfect sight, as they are accustomed to bring objects close to their eyes, and therefore receive the advantage of all the light which proceeds from it. Thus also they frequently write a very small but clear hand, the very small letters appearing clear and distinct to them, from the fact of their proximity increasing the visual angle subtended by them. Thus also if they look through a minute hole, they can distinguish objects clearly at a greater distance than before, the circumferential rays being excluded, which would by their early convergence have formed a focus before they reached the retina; and they generally half close their eyes when looking at any distant object, and their pupils, which are always large, receive then only the direct rays.

Children who have long suffered with strumous ophthalmia often become myopic. They have had, perhaps, strumous corneitis, and most probably some part has been left more dense, and hence the myopia, or it arises sometimes in such cases from an increased depth in the anterior chamber of the strumous ophthalmia; also where hydrophthalmia has existed, persons become thus affected. The anterior chamber seems in some of these cases to be enlarged, because the cornea has become thinned behind; sometimes the iris also appears to have fallen backwards, and in other cases forwards. The disease, called conical cornea, which I have previously described, will produce this defect, and as it advances, the vision becomes seriously interfered with, as the cornea becomes much thinned posteriorly; and a case is related by Mr. Wardrop in which the apex of the cornea was burst by an accidental blow on the eye with a lash of a whip. When I was speaking the other evening of congenital cataracts, I told you that I had known persons who had grown up suffering under congenital cataracts, and who had been supposed to suffer only from myopia, or weak sight. I have now three such persons under my care, who when they came to me thought they had only weak or short sight, whereas they have imperfectly opaque lenses, and I have reason to believe that their semi-dark condition has existed from their earliest childhood. Patients apply to us for the cures of their short sight, ascribing their condition to very various causes, as, for instance, to the existence of worms in the intestines, to sudden chills, to fits, &c. &c., and it appears that they are often correct, for they are in many instances much improved by attention being given to their statements. Physiologists have differed much on the question as to myopia being the result merely of over-refraction, or being the result of a deficiency in the accommodating power of the eye to different distances. I cannot agree with some very high authorities, who maintain that myopic persons possess the same power of varying the quantity of refraction as other individuals. Every accurate observer knows that the two eyes of different persons frequently differ in their refractive power, and accidental circumstances alone have informed such parties of the imperfection or even loss of one of their eyes. I have not observed that myopia is more prevalent in one eye than the other, but different surgeons have varied in their opinion on this point; some speak of the right and some of the left as being the more frequently affected. I have seen young children occasionally short-sighted, and I have known, as I just now mentioned, persons become short-sighted after illnesses. Many very curious investigations have been made respecting the classes of persons in whom myopia chiefly existed. The late Mr. Ware found that out of 10,000 soldiers in the Guards, this affection was scarcely known, and that at the Military School at Chelsea, where there were upwards of 1300 children, not one had ever complained of myopia until Mr. Ware mentioned it, and then only three could be found who seemed really myopic. Now for the reverse: at the two universities of Oxford and Cambridge, myopia appeared very common, and in one college in which there were only 127 members, thirty-two used glasses, double or single!! and if we direct our attention to where hard study is so common, we find that the comparative numbers of myopic persons is greatly larger than in agricultural districts. I believe that close reading and attention to minute objects in other ways, as in different trades, does really induce myopia; this fact has been ascribed to the loss of power and adjustment as to distance, for the persons to whom I have just referred have been continually employing their eyes on near objects, and they appear to have lost all distinct vision of distant objects; and vice versâ. I have often noticed persons who have been much occupied in looking at distant objects, lose all accurate vision when examining near objects, and this condition seemed to last until they had again practised their eyes in looking at near objects for a considerable time. I think Mr. Ware was quite correct in his opinion, that members of the lower classes, who had not the means for procuring, or the temptation of fashion to use, concave glasses, and yet who really were in early life to a certain degree myopic, have gradually improved in this respect by the constant use of their unassisted eyes. I have long known two brothers, who when they were boys complained of their sight, and appeared each of them to be somewhat myopic. One of them, a smart, conceited lad, at once adopted, and has always used, glasses, and now he is obliged to use very concave ones at all times. The other was at once persuaded by his friends to give up the glass he had just procured, and he has gradually become strong-sighted, and reads with his book at the regular distance with ease.

As regards the treatment of myopia, from what I have said you will perceive that if there is any indication for medicine, you should at once have recourse to it; and, on the other hand, correct or alter the habits and occupation of the patients, as circumstances shall indicate.

I might relate to you many distressing cases, had we time, of the results of the early indulgence in concave glasses, and in the unfortunate practice of increasing their power without any necessity, or of using them constantly. It is very important, when any glasses are to be allowed, that the lowest power should be given with which the patient can see objects distinctly at a proper distance, and that spectacles, or at any rate double glasses, should be procured, and not single ones. This precaution being adopted, it is very possible the patient may never be obliged to increase the power he has commenced with, and sometimes even a lower power may subsequently prove sufficient, although the eye does not become less myopic from mere age, as has been generally supposed. We hear of the division of one or more, or even of all the recti muscles, for the cure of myopia, on the plea of their exercising pressure on, and thus elongating, the eyeball. M. Guerin, of Paris, and M. Bonnêt, of Lyons, and others, have advocated this treatment. I agree with those who think the proposed remedy would be much worse than the defect they wish to cure. Opticians inform us that patients who use a concave glass for one eye only, have frequently been obliged to increase the power, but that this does not occur when spectacles are used.

The opposite condition to that which we have been now considering is presbyopia, or far-sightedness; as we advance in years, the refractive power becomes weakened, or the axis of the eye becomes too short, and consequently the rays of light are not brought sufficiently soon to a focus, which is now situated behind instead of on the retina; but we still see very distant objects tolerably well, as the rays proceeding from them require a less refractive power to bring them to a focus on the retina. This condition occurs at various ages—we expect it between the ages of forty and forty-five, but we do occasionally see it at a very early age, and, on the contrary, persons have lived to upwards of 100 in the enjoyment of excellent sight. I have known one case of an old woman, who threaded her needle and darned her stockings, &c., when upwards of 100 years of age: she never used spectacles, and could read her Bible easily at that time; and I have known many who have not required glasses when upwards of eighty years of age. The most common complaint to us by our presbyopic patient is, that he cannot read small print, snuff the candle, or mend his pen, and that he is obliged to hold his book at a greater distance from him, and hold the candle, if at night, between his eye and the book, or paper; or that the letters are confused and run into each other; and that he cannot see otherwise, accurately. You give him a slightly convex glass, and he is delighted. I said that the refractive power becomes weakened by age; and we appear also to lose the power of accommodating our eye to near objects. When persons are thus affected, if they persevere in reading small print, or examining near objects, they soon feel a heavy sensation in the forehead and brow, amounting almost to pain. It is supposed that a diminution in the quantity of the vitreous and aqueous humour dependent on increasing age, is a partial cause of presbyopia, as also the usually increasing density of the lens, which at the same time becomes flattened.

We hear of cases in which persons who have used convex glasses for many years have suddenly recovered the use of their sight at eighty or ninety; and Mr. Ware stated that such persons have discontinued the use of their glasses altogether. I have not seen any such instances, but I would not for an instant throw a doubt on such a statement. He thought that the sclerotic was pressed on laterally by the muscles after some of the vitreous humour had been absorbed, and thus the axis of the eye was lengthened. I have known young children become presbyopic after illnesses; but in every case I have treated, this condition of the eye has been only temporary, and as a child recovered its health and strength, the eye lost its presbyopic vision. The power of adjustment has been at different times attributed to many different causes, some of which I have referred to, as the change in the cornea, or the pupil, or of the lens itself; by the action of the ciliary body, or of the sclerotic by pressure on the muscles. One of the investigators on this subject is my colleague, Mr. Bowman, whose lectures I have already strongly recommended to your study. He thinks that the "ciliary muscle," as he styles that which is generally called the "ciliary circle," may possibly be destined to advance the lens, by drawing the ciliary processes towards the line of junction of the sclerotic and cornea, and that it may at the same time exercise some pressure on the vitreous body.[*] The same opinion is now held by many others, and Professor Owen has made some excellent remarks on the subject, in the article "Aves," in the "Cyclopædia of Anatomy and Physiology." He states that he considers the marsupium as an erectile organ, adapted to receive a varying quantity of blood, and thus occupy a variable space in the vitreous humour; when fully injected it would tend to push the lens forwards directly by the intervention of some of the thus displaced vitreous humour, and that the contrary effects will ensue when the vascular action is diminished.

In one of my early lectures, I mentioned the case of Dr. Roget, as related by himself, in a letter to Mr. Travers, who published it in his interesting "Synopsis of the Diseases of the Eye," nearly thirty years ago; and also of the late Dr. Miller, as bearing on this point of adjustment of the eye. I must not here enter much farther into the subject, and I would therefore refer you to Dr. Roget's most interesting letter, in which he speaks of his power of dilating and contracting the iris at pleasure. He states that he can, whilst steadily directing his eyes to a distant object, and while no other object intervenes, by a mere effort of volition exerted on his eye, augment its refractive power, so as to adapt it to the vision of near objects; and he ascribes this power to his having been for many years much occupied in observing optical phenomena, and practising different experiments relating to vision. Dr. Miller possessed this power to a great degree, and I often saw him exercise it. His pupils became alternately contracted and dilated during such efforts. Mr. Ware and others have published several cases, in which presbyopic persons become myopic, and the reverse during the treatment for severe illnesses; some of these changes were permanent, others only temporary. Many persons have been induced to use convex glasses of a lower power when they did not need them, because they had heard them called preservers; whilst others, who really needed some assistance, have, from vanity, or fear of creating a necessity, not adopted the use of convex glasses, when their eyes have really stood in need of such aid; and there is also an incorrect opinion prevalent, that pebbles are much superior to glasses. They are, indeed, harder, and are worked with more difficulty, and are much more expensive, if that is an advantage; but they are not so correct, generally, from their very nature; and I would advise those who are sceptical on these points to go to any skilful optician, who will very soon convince them of their error, although, as Mr. Hawes very truly says, "it is not a piece of information so advantageous to the vendor as to the purchaser." By experiment, it has been found that the cornea is occasionally irregular: of course this has occasioned irregular refractions, and a multiplication or confusion of images. Professor Airey and M. Prevost have each published accounts of their own cases, as exemplifying this fact. Also many persons labour under an insensibility to certain colours; the being only capable of distinguishing white from black is the more common peculiarity; others have been unable to distinguish pink or red colours; and authors who have collected many cases of these peculiar defects, and who have written on the subject, inform us that the chief peculiarities in such persons are the confounding red with green, and pink with blue, and that red light, and colours in which it forms an ingredient, and its accidental colour, are not distinguishable by these persons; a red appears dark, and a green appears drab; and yellow and blue, which appear to them the opposite colours, are the only ones they can distinguish correctly. Dr. Priestley, in a paper on this subject in the *Philosophical Transactions*, mentioned many cases, and amongst them, that of a shoemaker, who called all bright tints white, and all dull tints black; also the case of the artist, whose companions amused themselves by putting his colours out of order, and that that he very innocently afterwards gave a gentleman a green beard, and painted a lady with blue cheeks. The celebrated Dr. Dalton suffered under this defect, and he had an idea that the humours of his eye were coloured blue, and therefore absorbed a great proportion of the red and other least refrangible rays, as he could only distinguish in the solar spectrum yellow, blue, and purple; and he said he could not see any difference between his own professional red gown and the green trees. His eyes were examined after his death, and did not present the peculiarity he had predicted, or, indeed, any other. Many similar cases are recorded.

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[*] Since these lectures were delivered, a paper has been communicated to the Royal Society, by Mr. Rainey, of St. Thomas's Hospital, in which is contained a description of a muscle of the striped variety, lining about the posterior two-thirds of the choroid coat of the eye, in mammals. On the action of the muscle upon the lens, through the medium of the vitreous humour, the power possessed by the eye of adapting itself to distinct vision at different distances is shown to depend.

Although this defect in the power of recognising colours has been very generally supposed to be a congenital condition, cases are mentioned in which it has followed irregular habits and excessive drinking. Mackenzie mentions a case, in which a patient thus affected said he saw objects farther in the dark than any of his acquaintances.

Many theories have been broached as to the cause of this state. Brewster conceived that the eye, in such cases, was insensible to the colours at the end of the spectrum. Darwin and Young thought that the retina was active, generally, and that certain filaments were, in these cases, paralyzed; and Sir John Herschel considered that the sensorium itself was in fault, and that it had become incapable of appreciating exactly those differences between rays, on which their colour depends. Phrenologists quote many such cases, and attribute the defect to the non-development of the organ of colour in the brain. I knew Drs. Gall and Spurzheim well, and their opinions were very decided on this point.

Photopsia and ocular spectra are often very annoying to patients; the first often occurs under amaurotic affections, or sometimes as the result of pressure from small tumours on the eye itself; the latter, the ocular spectra, occur, with every variety of appearance and circumstance, after illness, or over-fatigue of the eyes or body. If you wish for an interesting account of them, you should read papers written by Buffon, Brewster, Darwin, and others, on this subject; as also, with respect to spectral illusions, you will find Dr. Hibbert on Apparitions, and Dr. Ferrier's essays, exceedingly instructive, and full of anecdote and interest.

I now have to speak of two affections that are exceedingly troublesome, day and night blindness; the latter—viz., hemeralopia or night-blindness, comes on suddenly without any warning; the party has been well throughout the day, and as twilight approaches he finds his sight failing and very soon he is temporarily blind. He will remain so all through the night, and in the morning, without his having pursued any treatment, his sight will return and leave him again at the approach of night. I have seen patients thus affected presenting no peculiar appearance, excepting a rather dilated pupil. All those whom I have had to attend for this affection have been sailors or soldiers, chiefly the former; sometimes, if they were in a very light room at night, they would see, though indistinctly, some of the candles and objects, but this was not the case after a little time, and then also this day-vision became more or less indistinct, and they would have a certain degree of intolerance of light. In "The Medical Observations and Inquiries" a very interesting case is mentioned of a miller's man, who was thus suddenly affected. He suffered for two months, and during this time he had regularly at night a slight pain over his eyes and a noise in his head, but he was quite well again in the morning; at the end of two months the blindness did not come on so regularly every night, and he recovered his sight entirely. The conclusion of the case might, however, be mentioned—viz., that he was taking bark, and diarrhœa came on; he became delirious and deaf, and he sank. This disease has been epidemic amongst soldiers at different times. In the eighth volume of the *Dublin Journal of Medical and Chemical Science* there is an account of an attack of this nature in a Prussian regiment; 128 soldiers suffered. They were accused of malingering, but this was soon discovered to be an incorrect suspicion. The sentinels could not find their muskets if they had laid them down for an instant; they missed their sentry boxes; they tumbled against each other; not one was ill in any other way, neither did their eyes present any unusual appearance; they complained of having a film over their eyes. On investigation, this attack was ascribed to the heat of that summer; to excessive fatigue in ascending great heights, whereas they were natives of a low and flat country; to their frequent parades, and their dark rooms, which circumstance was supposed to have rendered their eyes more sensitive. They were removed to some more airy quarter, and with the most simple treatment they all recovered in the course of a few weeks. You may also read in the third volume of the *Medico-Chirurgical Transactions* an interesting report and paper by Mr. Bainfield on this subject. He states that under proper treatment they will always recover, and that soon. He found blisters particularly advantageous, in addition to low diet and aperient medicines, and the use of shades. We must conclude that it is dependent on some state of the retina under which the eye becomes insensible to light of a moderate intensity. Cases of congenital night-blindness have been reported. I mentioned that it is most frequently seen in sailors, and it has been thought that the very fact of residing in a ship conduces to this disease. Scurvy very often accompanies iritis, and this should be treated first.

The nyctalopia, or day-blindness, is very uncommon, and I have never seen a pure case of such affection; but such cases have been recorded, and accounts of such epidemics are in print. Baron Larry used to relate a case, but this was the result of a prisoner having been for thirty-three years confined to a dungeon, and he could not bear the light of day when he was released. The late Dr. Wollaston wrote a paper on a peculiar affection from which he suffered—viz., hemiopia. You will find the paper in the *Philosophical Transactions* for 1824, styled, "On Semi-Decussation of the Optic Nerves." He had suffered twice from such an attack; for instance, he would only see half of a word. Thus, in attempting to read the word Johnson, he would have a blank presented to his vision over the first half, and he would only see the syllable *son*. He would see only the half of any object that he looked at, and the loss of sight was always towards his left side. This condition only lasted with him about fifteen minutes, and the vision gradually returned from the perfect side towards the imperfect, that is, to the left side. The attack had come on suddenly and after great fatigue, and he therefore soon forgot it; but about twenty years after this, the first attack, he suffered from a similar affection, with the exception that the defect was then to his right side: it lasted about twenty minutes, and then as suddenly left him by his being much excited by some agreeable news. I have not time to enter any farther into his interesting speculations on this subject; I must refer you to the paper itself. He died a few years after he had written it, and there was much disease found in the brain. The optic thalamus of the right side was large, and its structure altered; also the corpus striatum was much diseased.

I have met with a few cases of hemiopia in private practice, and some others amongst my hospital patients. In one family I knew of three individuals who, each on different occasions, when ill, could only see the vertical half of a person's face, or any other object they looked at, and as they recovered their health, they got rid of this inconvenience.

We sometimes meet with an horizontal, as well as a perpendicular hemiopia. I have seen a few such cases, and all recovered under a careful treatment. Some required depletion; others would not have borne it.

In *Chambers' Edinburgh Journal* there is an account, by one Jacques Balmot, of the effects produced on the eyes by the glare of the snow, when he and Dr. Paccord were ascending Mont Blanc. They had not the green veils on them which are recommended. He states, that when he arrived at the grand plateau he was so dazzled that he was nearly blind, and whichever way he looked he only saw big drops of blood. He sat down, and closed his eyes for half an hour, and was then able to go on. They passed the night in the snow. On the following morning Dr. Paccord exclaimed, "I hear the birds singing, and it is quite dark;" but his eyes were open, and he was blind for the time, and only recovered after careful management for a considerable period. Mr. Lawrence also relates a case of permanent injury to the eye, from the party having been out at night shooting, when the ground was covered with snow. Mr. White Cooper has also described the precautions adopted in some countries against snow-blindness. The Tartars and Persians wear over their eyes a veil of black horsehair net-work, to protect them against the snow; the Greenlander and Esquimaux wear snow spectacles, very curiously made. Mr. White Cooper has described them as being made of smooth wood, deeply excavated at the posterior, to allow of free motion of the lids; a notch is cut below, for the escape of the tears; the upper margin of the front surface is more prominent than the under, so that it should shade the eye; the inner surface is blackened with soot, in order to absorb some of the light. The openings for vision are horizontal and narrow slits; one is placed before each eye, and the lids are nearly closed; thus they are not only protected from the snow, but they can see distant objects more distinctly.

In a memoir of General Miller, in the *Edinburg Philosophical Transactions*, there is an account of a disease called "Norumpi" by the Peruvians, which seized nearly the whole division of Cordova, from Cazes to Puno. There had been a heavy fall of snow, and the effect of the reflexion of the sun from the snow brought on them the attack of this disease, which blinds persons, and causes excruciating pain. It is described as giving rise to a pimple, which forms on the eye-ball, and causes severe itching and pricking pain. The smallest degree of light, under this attack, is said to be insupportable, and therefore the poor sufferers cannot open their eyes for an instant. It is the custom to apply a poultice of snow, which affords only a temporary relief. Almost the whole of this division are said to have been, on this occasion, thus attacked at once. The guide went on for assistance, and brought numerous Indians, who then led the blinded soldiers onwards to a neighbouring village. Many had strayed away and were lost. The guides escaped by taking precautions against this exposure. Neutral-tint glasses are preferable to any others for the defending delicate eyes against an excess of light of any kind; for as Mr. White Cooper has remarked, in his excellent little book, from which I have, this evening, taken several facts, it is well known that if a person's eye has been subjected to any particular coloured light, and he subsequently looks upon an object of a white colour, he will at first form a wrong judgment as to the colour, and he will not call the object white, neither will he suppose it to be the exact colour which he had previously looked at, but will conceive it to be of another tint, which in optics is termed the complementary colour. I have marked on the diagram-board the colours, and their complementary ones. The board was thus marked:—

Colours.	*Complementary Colours.*
Red	Bluish-green.
Orange	Blue.
Yellow	Indigo.
Green	Violet-red.
Blue	Orange-red.
Indigo	Orange-yellow.
Violet	Yellow-green.
Black	White.
White	Black.

Thus, if a person looks through blue glasses for a short time, the retina is less sensible to blue light; and therefore, when they are removed, if a piece of white paper is looked at, it will appear orange-red, because the observer sees only that colour which arises from the combination of all the rays in the white light which it reflects, with the exception of the blue. So also green would excite a violet-red spectrum.

Thus, then, any cause which would diminish the sensitiveness of the retina, as any particular colour would, should be avoided. The neutral-tint glasses, being of no definite colour, seem to defend the eye from all colours equally, and produce, under sunshine, the effect of a cloudy day. Spectacles are much better than reading-glasses, as they are fixed more steadily on the head, and also, as they ought to be made very carefully to suit the person for whom they are intended, so that the pupils should be opposite the centre of the glasses. In ordering glasses for persons on whom we have operated for cataract, we generally direct that two pairs should be made, of different foci—of 2½ inch focus for reading, and of 4½ inch focus for walking out with, and observing distant objects; but different patients will require a variety in this respect. Occasionally some cataract patients are able to resume their usual avocations, after such operations, without using the glasses; and in some cases persons have gradually been able to discontinue the use of cataract-glasses, who had used them for some time. The late Sir W. Adams related the case of a postilion, who wore the usual glasses for some time after an operation for cataract; but finding that his employers distrusted his sight on that account, he gradually left them off, and eventually did not feel the want of them.

But my time has now fully expired; and I must refer you, for further information on these subjects, to the works I have so often named, and from which I have derived much of the information and many of the facts I give you in these lectures.

Clinical Lecture
ON
PURULENT ABSORPTION.

Delivered at St. Thomas's Hospital,

BY SAMUEL SOLLY, ESQ., F.R.S.

Gangrenous inflammation: cases. Phlebitis. Effect of pus on the blood: of mental anxiety as a depressing agent. Pulmonary and other abscesses. Cases of compound Fracture, Purulent Absorption, and post-mortem examination.

GENTLEMEN,—We have lately had so many cases of purulent absorption, that I feel convinced you will be much interested with a consideration of its pathology and treatment. And though I am convinced that its prevalence at the present time is dependent on some occult atmospheric causes over which we have no control, still it is our duty to study the whole subject with attention, and to add our stock of experience to the general fund.

I have observed lately, both in private practice and in the hospital, that there has been a great tendency to a low form of gangrenous erysipelas, to carbuncles, and to unhealthy inflammations generally.

Gangrenous inflammation has in one or two instances followed trifling operations in the wards of my colleagues, and in my own ward you have seen four or five patients succumb to purulent absorption, or, in other words, poisoning by pus—purulent poisoning.

The first patient, sixty years of age, fell a victim to it after struggling through the shock of a smashed elbow-joint, severe loss of blood, amputation of the arm, a violent blow on the chest, two fractured ribs, bronchitis, and fracture of both bones of the leg. For the first week this poor fellow's life hung upon a thread, and I watched his case with the greatest care and anxiety. His stump nearly healed, and the bones of the leg united; but just when all my efforts to save his life seemed crowned by success, he is suddenly prostrated, as if some subtle poison coursed with the blood through all his vital organs, and he sinks, like a shadow into the grave. But you shall be reminded of the progress of the case by a more minute detail of it hereafter.

The second was a poor fellow who was operated on for fistula in ano.

The third case that occurred in my own practice was a compound dislocation of the ankle-joint in an old woman of grossly intemperate habits. She was brought into the hospital in a state of intoxication, and was only saved from delirium tremens by brandy and opium.

The fourth case, and to which I direct your attention to-day, is that of a man previously in good health, the subject of a compound fracture of by no means unusual severity—a form of injury in which we are generally able to save both the limb and the life of our patient.

It is always a painful duty when we are obliged to decide to amputate in order to save life, and it is painful to witness a patient sink from an injury which we believed might have been repaired without a fatal result. But the occurrence of one fatal result, even if we could not trace it to a cause such as purulent absorption, which we have seen is not removed by amputation, must not deter you from that boldly humane view of these cases which induces you to prefer an anxious and arduous attempt to save a limb to the *éclat* of a skilfully executed operation.

The fact that depositions of pus and lymph in various parts of the body occasionally follow severe injuries and operations, has been known to the profession since the days of Morgagni, and many observations have been made on the subject by the Continental writers as well as our own countrymen, but I believe that the true pathological explanation of these phenomena has only lately been given. Mr. Rose, one of the surgeons of St. George's, has published a paper in the *Medico-Chirurgical Transactions* for the year 1828, in which he has collected a great many interesting cases. He, however, agrees with Dessault in attributing them to a disturbance of the nervous system. He says: "They are to be classed amongst the effects of constitutional irritation arising from local injury, and are certainly striking illustrations of the irregular action in the vascular system to which that irritation may give rise."

My old and much-respected master, Mr. Travers, in an essay of careful research and very extended observation, published with Mr. Cooper in 1818, entitled, "On Wounds and Ligatures of Veins," combats the idea of purulent absorption. He says: "Not to insist on the innocuous quality of pus, it should be observed that the most rapidly-destructive inflammation is that which has the true adhesive progress in which no pus is secreted." ...."All the mystery of veins is, as I have attempted to show, that they are indisposed to inflame; but when excited, inflame by continuity, and therefore it is that the constitution sympathises so deeply." Yet Mr. Travers adduces cases in which the inflammation of the vein was quite circumscribed, and the patient dies from secondary suppuration, induced, as I believe, by the absorption of pus.

The attention of the profession was called to this subject by Mr. Arnott, in 1829, and his paper is published in the *Medico-Chirurgical Transactions*, vol. xv. He was the first to show that the serious symptoms of phlebitis were owing to absorption of pus, not to the inflammation of the vein extending to the heart, as had been previously supposed. The whole paper is extremely interesting, and well worthy of perusal.

You will find some instructive observations on purulent deposits in Carswell's "Illustrations of Disease," fasc. viii. He repudiates the idea of these purulent deposits being the necessary result of phlebitis; he considers that for their formation there must be inflammation somewhere, but the pus circulates in the blood and thus poisons the whole organism before it is again re-deposited. Dessault propounded the theory, that after injuries of the head, pus was always deposited in the liver; this, however, has been proved to be a mistake. The lungs and the liver are the most frequent seat of these deposits, and the kidneys the least so. M. D'Arcet, who wrote on purulent deposits in 1842, considers that these deposits are sometimes absorbed, and pass off by the kidneys, rendering the urine in that time albuminous.

The subject of purulent absorption has been admirably treated on by Mr. Henry Lee, in his Jacksonian Prize Essay for 1850. I have read this essay with great pleasure and instruction, and I recommend all of you to read it with attention, and it will be your own fault if you are not the better for it.

It has been shown that pus, when mixed with the blood, coagulates that fluid, that the action is not a chemical action, but a vital action. And you will at once perceive how beautifully this action is ordained by Nature to prevent purulent absorption. When the vital forces retain their normal power, then the blood coagulates at once, and the wound in the vessel is sealed by a firm coagulum of blood while the healing process is going on; but if the vital power of the blood is diminished by disease, then this conservative coagulating action does not take place in time to plug the vessel, and stop the poison at the threshold. The barrier which Nature, in a state of health, erects, to prevent the flow of pus into the veins, is not set up, and the poisonous fluid is carried onward in the current of the circulation.

You must not, however, suppose that the erection of this barrier is interfered with only by disease. It may be, and often is, broken down mechanically. After bleeding in the arm, if the limb is not kept at rest, the plug is not formed, the healing of the wound is interrupted, pus forms, and phlebitis takes place. It is true that the contractile coat of the vein plays its part also in preventing purulent absorption just as it assists in preventing hæmorrhage, and if the powers of the constitution are weakened by disease or atmospheric causes, so also will the contractile power of the coats of the vein be deteriorated. But there are some veins so placed that they cannot contract on their contents; these veins are therefore dependent on this vital coagulation of the blood for their safety—I mean, the veins in bones. Hence you will perceive the immense importance of keeping the veins of a fractured limb at rest, when pus is being formed round the broken ends of the bone, and you have reason to fear the occurrence of purulent absorption being promoted by the depressing influences of an impure atmosphere or a weakened constitution.

There is, gentlemen, another depressing agent which, I think, has not been sufficiently insisted upon, I mean, anxiety of mind. I am quite sure that mental anxiety has carried more poor fellows to the grave than any single cause that the surgeon has to contend with. I have repeatedly, and for a long series of years, observed a connection between anxiety of mind and the formation of abscesses. I cannot offer any physiological or pathological explanation of it. I have also observed purulent absorption more frequent in patients, who, to use their own phrase, have "had something on their minds." This was certainly the case in the instance of two of the patients to whom I have adverted; I mean the man with compound fracture, and the other with fistula in ano.

You must not suppose, gentlemen, that the veins are the only channels by which pus enters the system. The absorbents are sometimes the traitors that admit this deadly enemy into the citadel of life. There is a case now in the hospital, which on some future occasion I will relate to you in illustration of this fact.

Purulent absorption by veins has been called phlebitis. But there is this objection to the name; it implies the process is attended with inflammation of the coats of the vein, which certainly is not always the case. I do not mean to say that veins are never inflamed, or that pus is never absorbed by an inflamed vein; but I do mean that when pus is absorbed by veins, they are not usually inflamed. I think it would be better to restrict the term phlebitis to inflammation of the vein, and use the term purulent absorption to the affection we are now considering.

I must next explain to you what becomes of the absorbed pus, and in what way it produces such mischief in the system.

The pus globules once admitted into the current of the blood, flow freely through the large systemic veins, until they reach the capillary system of the lungs. It has been stated that in consequence of these pulmonic capillaries being more minute than the pus globule, that its progress is arrested; that they accumulate till the capillary, no longer bearing the pressure from behind, gives way, and they are extravasated into the parenchyma of the lungs. Here they reproduce their species. I doubt this mechanical explanation; I am more inclined to regard it as an attempt to excrete the poisonous matter to get rid of it from the system.

I believe that this is sometimes effected, and the matter is coughed up, and the patient recovers. At the same time it must be remembered that the pus globule is a living nucleated cell, and as such enjoys an individual existence; it forms new cells, and their accumulation constitutes a new abscess.

The lungs are not the only portions of the organism where this attempt to unload the system occurs. You find secondary abscesses in other situations. In the case I am about to read to you, suppuration took place in the hand. It has been doubted if these abscesses ever occur on the other side of the lungs—that is, in the systemic arteries, unless pus has been previously effused in those organs. There are, however, several cases recorded of abscesses in the liver after injuries of the head, without any mention being made of abscess also in the lungs.

Mr. Arnott, in his paper, already referred to, collected thirty-three cases of purulent absorption following injuries of the head. In twenty-one of these, the secondary purulent deposits took place in the abdominal viscera; in five, in the thorax; in six, in the abdominal and thorax conjointly.

In one there was a deposition of pus in the substance of the heart; one, in the kidney; one, in the spleen; one, in the integuments of the back. So that you will perceive by these facts that the lungs are not the only organs where secondary purulent deposits take place.

"The general course of these cases," says Mr. Arnott, "seems to have been this, and in the great majority (twenty-four) it is so stated, that the patient for some time did well, having recovered his consciousness, when this had been lost, which was frequently not the case, was free from fever, and the wound suppurating kindly; that afterwards unfavorable symptoms took place, consisting of fevers, rigors, nausea, and vomiting, delirium, yellow colour of the skin, and sometimes, shortly before death, pain in the right hypochondrium, or affection of the chest. There was some difference in the period at which these symptoms appeared; but of nineteen cases, the earliest of which was the seventh, and the latest the twenty-fourth day, the average was between the thirteenth and fourteenth day after the accident. The average period of the fatal termination of the same cases was between the twenty-second and twenty-third days, the earliest being on the fifteenth, and the latest on the twenty-seventh, subsequent to the injury."

Having given you this general sketch of what we mean by purulent absorption, I think you will be better prepared to understand the following case. But you will understand that I have only given a general sketch of the subject, not pretending to tell you all that has been written regarding it. I trust that I have interested you in its pathology, and that you will watch every case that occurs in the hospital with greater interest and attention.

Compound Fracture, Purulent Absorption, (reported by Mr. Alfred Carpenter).—Henry B——, aged forty, a coachman said to be temperate, and generally to have good health, was admitted into George's ward, under Mr. Solly, November 25, 1850, eleven A.M. Twelve hours before this he had been overturned whilst driving, and the carriage fell on him, causing a compound comminuted fracture of the right leg: he was seen by a surgeon who put the limb in splints, and sent him this morning to the hospital. There is a small wound in the inner side of the leg (about the lower third) which bled profusely at the time of the accident; the lower portion of the tibia is depressed, and between it and the upper portion, which is prominent, there is a space in which the bone is absent, and is probably produced by a communicated piece of tibia being out of place.—There is considerable swelling, and a few small vesicles have arisen from the tightness with which the limb was bound; the fibula is broken also, some inches above the fracture through the tibia, which is oblique. The arteries are uninjured, and a slight hæmorrhage continues from the wound. The leg was placed on an outside splint, and bound gently to it above and below, leaving the wound uncovered, except by a strip of cloth which was pinned tightly round with a compress on the bleeding part; by this means the leg was kept well in position, but the comminuted part does not fill up its proper place.

I believe that the free hæmorrhage took place from the saphena major vein, and you will understand from my previous observations how important this venous wound in all probability was to the patient.

November 26th.—He quickly became quite easy, had very little muscular spasm during the night, no further hæmorrhage, pulse quiet.

27th.—Very easy, no pain anywhere.

28th.—Very easy, but occasionally feels a start in the limb, with a little aching pain, cannot void his urine, pulse 88, skin moderately warm.

29th.—A vesicle has formed above the fracture containing clear fluid, the other vesicles have disappeared, the leg feels very easy, is in no pain, and there is but little swelling.

Dec. 1st.—Voids his urine naturally; has a little more fever and heat of skin, &c.

4th.—Leg rather more painful, but tongue is cleaner: no heat of skin, slept well, the appetite good. The wound discharges healthy pus.

10th.—The leg has not been quite so easy, and he has been very restless and uncomfortable, constantly raising himself in bed whenever a stranger entered the ward, fearing lest another severe accident should take away the sister's attention from him.

He also seemed to be anxious about his wife, and worrying himself regarding a subscription which had been made for the relief of his family. The consequence has been, that he considerably disturbed the fractured bones, and the upper portion presses seriously against the skin, although the extremity of the bone is quite covered with granulations. The limb was now taken out of the swing-box, and placed on the outer side, by which the upper part of the tibia falls better into its proper position. The appetite continues good, and notwithstanding his great irritability and nervousness, he seems quite well in health.

12th.—Has had a good deal of pain in his ankle and knee, which he attributes to rheumatism, to which he is subject, and has felt cold occasionally. Pulse is rather small and weak, but not quick, and the tongue is clean; the leg looks healthy, and feels easy; has now a pint of porter daily.

14th.—Has more thirst and some headache, with a feeling of chilliness, but no actual shivering; the leg looks well and feels easy, but the rheumatic pains in the joints are still present, and make him restless; bowels rather confined; and stomach out of order; skin damp, with an acid perspiration of an offensive odour; he sleeps pretty well till five o'clock A.M., when the chilly feeling comes on. Ordered, to leave off the porter; powdered calomel and rhubarb, one scruple; morphia, quarter of a grain every night; an ounce of the mixture on the following morning.

From this time I think we must date the purulent absorption. I have no doubt that the saphena vein of the leg, or some of its branches, were injured by the patient's involuntary movements of his limb. The projecting plug of coagulated blood was disturbed, and thus an entrance given to the poisonous pus globule. But we must continue the narration of the case, which is so minutely and correctly given that it affords you a faithful picture of the rise, progress, and termination of the symptoms of purulent absorption.

16th.—Bowels remain confined, and compound senna mixture caused vomiting; tongue coated with a yellow fir, and rather dry; no appetite; dull headache; skin hot; pulse 108, weak; had rigors this morning at five o'clock; the leg looks well, discharges healthy pus, is granulating, and cicatrization has commenced; the bones lie in better apposition, and there is no pain in the fractured part, but the joints are painful and rather tender. Ordered slice of mutton daily. Soda water.

17th.—Did not have his morphia, but slept till five o'clock, when shivering disturbed him: now, the skin is hot although he complains of being cold; bowels have been well opened; tongue dry, with a yellow fur; headache and thirst; pulse 100, small and weak; leg and joints quite easy; wound looks well, although the discharge is less. Two hours afterwards the pulse had risen to 130; he seemed very restless, and trembled. Ordered, iodine and gentian mixture. Towards evening the pulse became quieter, dropping to 108; he was more composed and inclined to sleep. He has disturbed his leg a little by raising his body in bed. Arrow-root and brandy.

18th.—Ten A.M.: Last night had a violent shivering fit, which lasted ten minutes; this morning had his usual fit at five o'clock; perspires very freely; frequently sighs, and is rather restless; pulse small and feeble, 126; very little sleep; very thirsty. Ordered, quinine five grains; sulphuric acid, five minims; tincture of cardamoms, one drachm; extract of infusion of roses: every six hours. Wine and brandy in small doses, frequently, with ground rice. In the evening the pulse was very small, and easily pressed out 140; sighing continues; he complains of a soreness in his leg; the healthy discharge has entirely ceased; the granulations look livid, and the wound seems inclined to discharge; tongue is dry; eyes brilliant; no delirium. Ordered, morphia, half a grain every night.

19th.—Eleven A.M.: Quiet night, except occasional pain in leg; no shivering at the usual hour this morning; not so restless; tongue still dry and brown; pulse 100, intermitting every fourth beat; has been a little delirious; bowels have been relieved twice; urine scanty, and high coloured; craves for his nourishment. Brandy and wine increased to five ounces each daily. Nine P.M.: Frequently dozing, not so restless; pulse not intermittent, 120; felt cold once during the day, but no shivering; leg easier, but the wound has the same unhealthy look; face not so anxious; very low-spirited.

20th.—Quiet night, except when disturbed by his bowels acting; has had no rigors; pulse 130, very weak; skin moist; tongue moister than last night; less thirst; no headache; quite rational; a little more action in the sore. The quinine was given in pills, as the acid mixture disturbed his bowels.—Nine P.M.: Quiet; bowels comfortable; dozes frequently; sighs, but says he is in no pain; pulse 130; tongue drier.

21st.—Complains of pain in pit of stomach, and in right side, down towards the ilium; he felt this a little yesterday; it is slightly tender, but no alteration is visible; pulse is regular, 130; bowels rather relaxed during the night, and for this he has had compound chalk-mixture originally; frequent sighing; has but little headache; takes all his nourishment; sore on leg inactive, granulations smooth, slight watery discharge. He had a mustard-poultice to the stomach.

22nd.—Had a quiet night; pain somewhat easier, but returns occasionally; respiration is shorter; bowels continue irritable; leg much the same as yesterday, and quite easy; now he is rather restless, but quite rational. There is a red spot on the elbow, and swelling on the dorsum of carpus of right hand, red and tender, but without fluctuation: tongue dry; skin sweating; pulse

126. Ordered tincture of opium, forty minims, at night.

23rd.—He has had a quiet night, but his conversation is somewhat irrational; does not complain of pain; no shivering; skin wet; pulse 126, tongue dry; sighs frequently; respiration 40; no cough; is very weak; and on account of thick flannels about his chest, the physical signs cannot be perceived. I opened the abscess on the back of the wrist, and let out some ill formed frothy matter. I regard this deposit of matter on the right hand as an attempt on the part of nature to get rid of the poison from the system.—Nine P.M.: Frequent purging during the last two hours; respiration 56; pulse 136; skin wet; very restless and low-spirited.

24th.—Ten A.M.: The diarrhœa has continued during the night, notwithstanding the chalk mixture Pulse small, fluttering; tongue smooth; respiration 60; face very pale and anxious. The inner surface of the tibia is now exposed by an enlargement of the sore, which is very dark-coloured and discharges bloody serum; there is a piece of the bone firm, and above that a piece which seems to be carious, and is quite soft. He complains of a tightness across the chest.—Nine A.M.: Pulse more feeble and fluttering; respiration gasping; wound almost black, with black discharge; occasional subsultus; tendinum on the right side, which disturbs the fracture. There is a small swelling of first phalangeal joint of left little finger, containing fluid; the right hand and arm have been poulticed, but the abscess discharges but little; can only swallow small quantities of arrowroot and brandy.

In some experiments by Mr. Gaspard, related by Mr. Lee, it appears that a diarrhœa was set up apparently as a means of getting rid of the offending matter. It is therefore a question whether we are right in attempting to arrest it in such cases. I was induced to do so in this instance from the extreme debility of my patient. But I think it instructive to call your attention to the fact, and thus to tell you that you must not consider it essential to plug up the bowels as a matter of course in a case of purulent absorption without any reference to the strength of your patient.

25th.—Very restless all night; delirious; frequently fails in his speech; general subsultus tendinum; cold perspirations; pulse scarcely felt; diarrhœa; gasping respiration; can scarcely swallow. Died at seven P.M.

Post-mortem Examination, forty-three hours afterwards, by DR. BRISTOWE.—The second joint of the left little finger was swollen, and on laying it open an abscess was found within the joint. The right elbow was also swollen, and the cellular tissue infiltrated with pus, the joint being unaffected. There was little attempt at reunion about the fracture, and a large quantity of purulent fluid infiltrated the tissues in its neighbourhood; one of the posterior tibial veins opposite the fracture of the tibia was blocked up, and distended considerably beyond its natural size by coagulated blood; this distention occupied about two inches of the vein; whilst above and below this the vein had its natural appearance and calibre, and was nearly empty. Brain healthy.—*Chest:* a delicate recent layer of false membrane was spread over the posterior part of the left lung, and the pleural cavity contained a small quantity of turbid fluid. The lung generally was congested, but especially the lower lobe, which contained numerous more or less encysted whitish masses, which appeared to be abscesses in various stages of formation; some of them were distinct, but the majority were harder, as if from the presence of fibrine; the lung-structure, to a considerable extent round each, was softened and consolidated. The right pleura contained about a quart of opaque, turbid, yellowish fluid. The entire surface of the pleura was covered by a thick layer of soft, flocculent fibrine, this being most abundant towards the posterior part. The right lung was somewhat collapsed, and less congested than its fellow; and a few whitish masses existed at the lower part, similar to those in the opposite lung, but less numerous and less advanced. The pericardium contained a small quantity of semi-opaque, reddish serum; and a thin, adherent film of lymph covered the origin of the great vessels entirely. The heart itself was apparently healthy. The aorta contained a few specks of atheroma. The peritonæum healthy. The liver was considerably enlarged, its surface pale and smooth, and on section it was found pale and soft throughout, and evidently in a state of fatty degeneration, as shown by the microscope. The spleen large and soft; the kidneys large, soft, and vascular. The remaining organs healthy.

You have now, gentlemen, followed the details of this fatal case, from its commencement to its termination; and I trust they have made such an impression upon you that you would recognize the features of this disease at its very onset on any future occasion. You will see the importance of keeping the parts perfectly at rest. You will understand how, by disturbing the coagulation in an injured vein you may open the gate to purulent absorption. You will understand the value of supporting the general power of your patient, and thus favouring the healing process, where you have reason to apprehend purulent absorption. I wish I could also add, you will see, from the treatment of this case, how to avert a fatal issue when the pus has once been admitted into the crimson current. No, gentlemen, we have not learned how this is to be accomplished. I believe that a tonic plan of treatment is the best; but this is all we can say. Nevertheless, sound pathology must lead to sound therapeutics; it is impossible to overrate the importance of a correct diagnosis. The value of a correct prognosis to the patient and his friends is incalculable, and your own reputation is not unfrequently made or marred by it. You will therefore remember, in a private case of this kind, when the first symptoms of purulent absorption set in, that you warn the friends of your patient of the danger to be apprehended.

Clinical Lecture

ON THE TREATMENT OF

STRICTURE OF THE URETHRA.

By THOMAS WAKLEY, Esq., F.R.C.S.,
Surgeon to the Royal Free Hospital.

STRICTURE of the urethra is a morbid condition of so frequent an occurrence, so distressing to the patient, and even dangerous to life, in its aggravated form, that the subject claims all the powers of investigation, study, energy, and perseverance, which the surgeon can bestow, with a view to arrest its worst consequences. Hence it is that so many eminent names which adorn our profession have been more or less connected with this department of practical surgery. Writers who have immortalized themselves by their research and discoveries have made stricture of the urethra the subject of their careful and patient investigation. Although many opposite opinions have resulted from the labours of these eminent men, relative to the pathology and treatment of the disease, yet information of a most valuable description has been acquired by their investigations.

There are no subjects connected with our profession which have received more attention than diseases of the genito-urinary organs, and stricture of the urethra stands as one of the most prominent in that class of affections. Nor has the anxiety to add to a knowledge of the pathology of stricture at all abated as time has passed away. Let us refer even to the last few years. Down to the present moment the same untiring energy has been devoted to the treatment of stricture by surgeons holding the highest offices in our profession. Indeed, the importance of the subject will ever demand the greatest attention from practical surgeons. What did that great surgeon, the late Mr. Liston, declare, in reference to the key-stone of this department of surgery—catheterism?

"The operation," says he, "of introducing a catheter through what has been called an impermeable stricture is, without doubt, the most difficult in the whole range of surgical operations, and demands all the prudence, science, and skill of a master."[*]

This being the opinion of that eminent surgeon, we cannot be surprised at finding that various plans have been suggested to promote the accomplishment of this operation. Cases of the most obstinate kind are brought to the surgeon, and every power has been invoked, with a view to effect the introduction of a blunt and a comparatively harmless instrument into the bladder. Patients will not apply for the aid of surgery in the earlier stages of the disease, but continue for a long time suffering much inconvenience, and trusting that the complaint "may pass away." Could patients be induced to adopt a different course of conduct, they would be saved much suffering, and the surgeon much anxiety. With proper care and attention, it is almost impossible that a stricture can become cartilaginous and impermeable, except from accidental causes. It certainly is a fact, that persons afflicted with stricture keep away as long as they possibly can from the door of the surgeon. Thus the disease is allowed to reach a very grave condition before surgical assistance is demanded; and more so, perhaps, with stricture, than with any other affection.

For proofs of what I have just now advanced, I would refer you to the wards of this hospital, which at the present time exhibit several cases of this afflicting malady; indeed, we are rarely ever without them. In the out-practice, also, there are always very many cases under observation. You have witnessed the treatment of these cases; and as the plan now adopted here is novel, and originated in this hospital, I intend to devote this lecture to a rapid survey of the present state of the treatment of stricture of the urethra, as practised by surgeons, reserving the pathology of that disease, in its varied phases, for consideration on another occasion. I shall conclude with an explanation of the instrumental means employed here for the relief of this disease, not at present touching upon the treatment of spasmodic stricture, but only what is called the permanent and "*impermeable*" variety of the affection.

In the treatment of stricture, the object sought for by the surgeon is to dilate the strictured part to its natural capacity and healthy power of expansion under the influence of the expulsive efforts of the bladder. It matters not what are the various means employed—this is the object, and is anxiously desired by both patient and surgeon. There exists a narrowing of the canal, and it must be widened to an equal calibre with the rest of the urethra. This can only be effected by instrumental means:—all surgeons are agreed upon this point.

The different modes of treatment adopted by the profession are, the dilatation of the strictured part—

1. By means of silver catheters, sounds, or variously manufactured bougies.[*]
2. By incision of the stricture within the urethra.[†]
3. By incision of the stricture without upon a small grooved staff, "passed fairly through the strictured part."[‡]
4. Or, in the case of an impermeable stricture, by passing a catheter to the stricture, and then cutting down upon it, (perineal section.)[§] And lastly,
5. By the action of caustics applied to the stricture.[||]

Other methods of treatment have been devised, but have received but few followers. I may mention Arnott's dilator, a tube of silk, dilated with air; and also a steel dilator, invented by a French surgeon, composed of a split sound, with a screw

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[*] Practical Surgery, p. 476.

[*] Sir B. Brodie's Lectures on Diseases of the Urinary Organs, p. 61

[†] Mr. Stafford on Perforation of Stricture of the Urethra with Lancetted Stilettes.

[‡] Mr. Syme on Stricture of the Urethra.

[§] Sir B. Brodie's Lectures on the Urinary Organs, p. 55.

[||] Vide Hunter on the Venereal Disease; Treatises on Stricture of the Urethra, by Sir E. Home and Thomas Whately passing between the blades, which, in its action, would forcibly separate them.

With respect to the plan first mentioned, that of dilatation with the silver catheter and bougies, in the hands of the skilful and practised surgeon, the majority of permanent strictures are under his control; but much patience is required during this treatment, and also a very guarded manipulation. Even if the surgeon possess high qualifications he is often doomed to disappointment in the process of the treatment; for after having passed a small catheter, he often cannot by any possible means insert the next size. The difficulties opposing him are, the existence of false passages; of two or three strictures admitting a catheter of one size, but refusing to allow the point of the next catheter to pass; an irritable state of the urethra, from the efforts made to pass the first catheter inducing spasmodic contraction; and other minor causes, of which all surgeons are cognizant. This is the common mode of treatment, and the false passages are made in the efforts to pass a larger catheter, after a smaller one has been successfully introduced. The surgeon, from his success in passing the first instrument, uses more force, and the delicate lining of the urethra gives way; thus have we this condition produced. The objection to this mode of treatment clearly is, that the surgeon, having succeeded in introducing one instrument, must *withdraw* it to pass another, and so on, to continue the process of dilatation, each time having a repetition of the same dangers and difficulties to surmount.

The mode of cure by dilatation with catheters and bougies is supposed to act either by absorption or ulceration of the adventitious deposit from pressure of the instrument. As I have already observed, the objections to this, the reigning method of treating stricture, have been, the difficulty, from very many causes, of introducing a second instrument after one has been passed and removed, and indeed the uncertainty of even being able to pass the same instrument upon two successive days. By the efforts to effect this, even by the most dexterous surgeon, much harm is frequently occasioned; false passages, the opprobria of surgery, are made, and increase the difficulties of treatment tenfold.

The treatment of stricture by internal incision was introduced into practice some years since, by Mr. Stafford. He uses a lancetted stilette, either with single or double blades, with which he "perforates the permanent stricture." He passes the instrument either through or upon the stricture, keeping the stilette as nearly as possible in the natural course of the urethra; he then darts forth the cutting blades, and incises the stricture; and he leaves a catheter in the urethra, allows the wound to heal, and then keeps the canal pervious by the ordinary means. This treatment is open to every objection to the use of the knife; extravasation of urine and urinary abscess, fistula, and hæmorrhage, being the most formidable and probable sequents to such a proceeding. In Mr. Stafford's work on this subject, we find that in the majority of cases in which he employed this cutting treatment, he could pass a small-sized catheter. In these cases, why was not the ordinary dilating treatment employed, when the surgeon possessed the command of the urethra? The perineal section, recommended by Sir. B. Brodie as a desperate remedy, not to cure the stricture, but really to open the urethra, in order to evacuate the bladder, and to save the patient's life.

The other method of treatment of stricture by incision is that of division of the stricture from without. This plan has been recommended by Professor Syme. The proceeding which he directs is that of passing a small grooved staff "fairly through the strictured part." The patient is placed in the position required for the operation of lithotomy. The operator then cuts down upon the grooved staff, freely divides the stricture, and passes a middle-sized catheter, over which he allows the divided urethra to heal. The surgeon must perceive that the patient is here also exposed to all the ill results arising from the use of the knife—hæmorrhage, inflammation, fistula, erysipelas, &c. In one of the cases published by Mr. Syme, the consequences of the operation are very candidly detailed by that gentleman.* The premises which Mr. Syme insists upon in reference to this operation—namely, the absolute necessity for an instrument being "fairly passed through the stricture," appears to me to bring the case within reach of the means of treatment by dilatation. The kind of stricture which he has named "the resilient stricture," is of very rare occurrence; and when it is met with, from its very "resiliency," catheters of a very large size can easily be passed, and indeed the conduct of such a case is even within the power of the patient, assisted only occasionally by the surgeon. When no instrument can be passed into the bladder, and danger is apprehended from rupture of that organ, then "external excision," or puncture of the bladder, is not only justifiable, but absolutely necessary: but these cases are very rare. In the practice of this hospital, during a period of five years, where the worst possible cases of stricture and retention of urine have been seen, I have never, except in one instance, failed in passing an instrument through the urethra into the bladder.† In three cases of perinæal incision which I have seen performed, two very speedily proved fatal.

With respect to the treatment of stricture by caustics, as recommended by Sir E. Home and Mr. Whately, the former surgeon, who adopted nitrate of silver as his favorite remedy, believed that it either produced absorption or destruction of the adventitious tissue composing the stricture. Mr. Whately used potassa fusa with the same view, thinking that it possessed the same properties as the nitrate of silver in a more powerful degree. The mode of introducing these caustics was by bougies, especially appropriated to that purpose. But when we consider the power of the substances employed, and the extreme difficulty of guiding and commanding the destruction of tissue; and when Mr. Whately and Sir E. Home both confess that the treatment may be followed by "profuse hæmorrhage, great pain, retention and incontinence of urine, inflammation, rigors, and fever," few surgeons will follow in their steps with this severe method of treatment, when milder means are within their reach. With reference to the treatment of stricture with caustic, a very high authority* remarks, that you may produce "false passages and urinary abscess from the flowing of the dissolved caustic." Indeed, that celebrated surgeon mentions a fatal case produced by the application of caustic.

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* Vide Mr. Syme on Stricture of the Urethra, p. 48.

† Mirror of Surgery, November 23, 1840, p. 580.

Catheterism and its modifications will continue to be the remedies of the surgeon who possesses a knowledge of the anatomical relations of the urethra, and the necessary manual dexterity and skill to bring that knowledge to bear upon the operation of passing an instrument into the bladder.

Having taken a hasty survey of the history of the treatment of stricture of the urethra, I shall now draw your attention to the mode of practice followed in this hospital. The cases and the results that have been, and are now, before you, clearly demonstrate, as I think, the command we have over strictures of the urethra, from their most simple to their most severe forms. Time, of course, is required to settle the question of permanence of cure. But it is satisfactory to find that the principle of this method of treatment has received the approval of the eminent surgeons who have honoured the clinical demonstrations on this subject with their presence.

The drawings of the stricture instruments I now use have been kindly executed for me by Mr. Charles Robertson, and they very clearly explain the mechanism of the process. The scale of size is exactly, both in length and width, one half the measure of the actual instruments.

No. 1, (*a.*) The catheter, thirteen inches in length, with the thumb-slide fixed, of a very small size, slightly curved at the extremity; the stem quite straight, and having at the end a worm, for the reception of the screw of the directing rod.

(*b.*) The small thumb-slide, (removable at pleasure,) screwing closely upon, and acting as a handle to the catheter. The utility of this must be evident. The surgeon can guide the point of the catheter more truly. It is removed when the index-rod is screwed on.

(*c.*) Steel rod, which passes into the catheter as far as the screw, at which part both are united by two or three turns of the rod. The rod makes an addition of five inches to the length of the catheter. The rod and catheter combined form the index-rod, or director for the silver and elastic tubes.

(*d* & *e.*) Two silver straight tubes, (Nos. 3 & 10); there are eight, of graduated sizes: the first is only one size larger than the index-rod, and the others regularly increase in circumference, corresponding with the numbers of the ordinary bougie. These tubes are nine inches long, are of a conical shape at their distal extremities, and are so constructed as to fit, with extreme exactness, the surface of the index-rod. They slide with the most perfect ease along that guide, and being directed by it, if the catheter be through the stricture, the tubes cannot take a wrong course or make a false passage, but must pass along the index-rod.

(*f.*) An *elastic tube*, composed of a flexible metal, covered with elastic gum fabric. This combination gives to the instrument very considerable strength, without rendering it clumsy or bulky. The extremity of each of these flexible tubes has the same form as that of the silver tubes, and fits with perfect accuracy the surface of the index-rod. There are sizes of the elastic tubes corresponding with those of the silver tubes.

No. 2, *g*, exhibits an elastic metalic tube, (No. 7), running over *a*, the directing catheter, taking the curve of the catheter. Having introduced the elastic tube into the bladder, over the directing catheter, the latter is withdrawn, leaving the former in the bladder. *h* & *i* show the course of the silver tubes upon the directing rod. You have seen with what ease the tubes work over that guide. Upon the stem of the catheter you will observe a graduated quarter-inch scale. This will always inform the surgeon at what part of the urethra the distal margin of the silver tube is passing over the directing rod. The upper part of *h* & *i* shows a small portion of the steel rod, screwed into the catheter. *k* exhibits the upper part of *h* & *i*—viz., the steel rod, screwed into *a*, catheter, with *d*, silver tube, running over it; and having reached the turn of the catheter, indicates by its position on the graduated scale, its arrival there.

I would now particularly enforce your attention to the mode of applying the instruments which I have just shown and described, for the relief of permanent stricture of the urethra.

The catheter should be introduced with much caution and "lightness of hand," completely through the contracted part of the urethra into the bladder. This having been done, the stylet should be withdrawn, and the surgeon, satisfying himself, by the escape of urine, that the instrument is in the bladder, must then insert the smaller extremity of the steel rod into the catheter, and having secured it, by making two or three turns of the screw, remove the thumb-slide, and then pass No. 3 silver tube upon the index-rod right through the stricture or strictures. In performing this operation, the passage of the instrument will be much facilitated by giving to the flanges a rotary motion as they are held between the fingers and thumb, and depressing the index rod, so as to straighten the urethra as much as possible. This tube being withdrawn, the others may all be passed in a similar manner, and in regular succession. The number to be introduced must of course be determined by the operator. After the last metalic tube has been withdrawn, an important object can still be secured—that of *keeping the com-*

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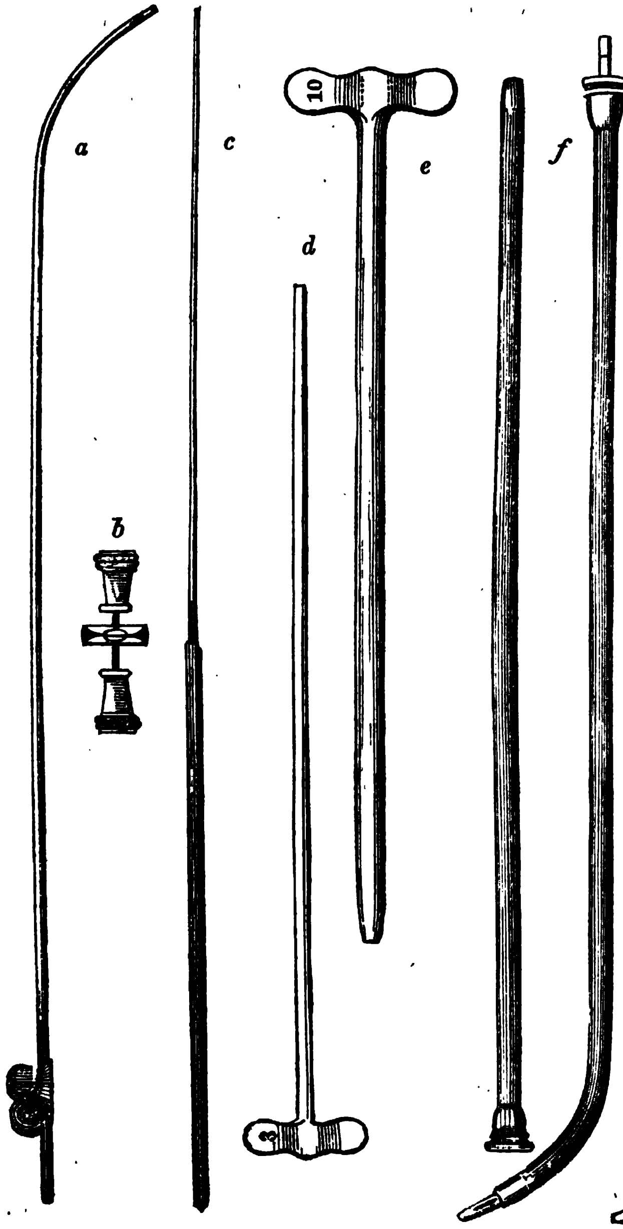
* Sir B. Brodie; Lectures, p. 60.

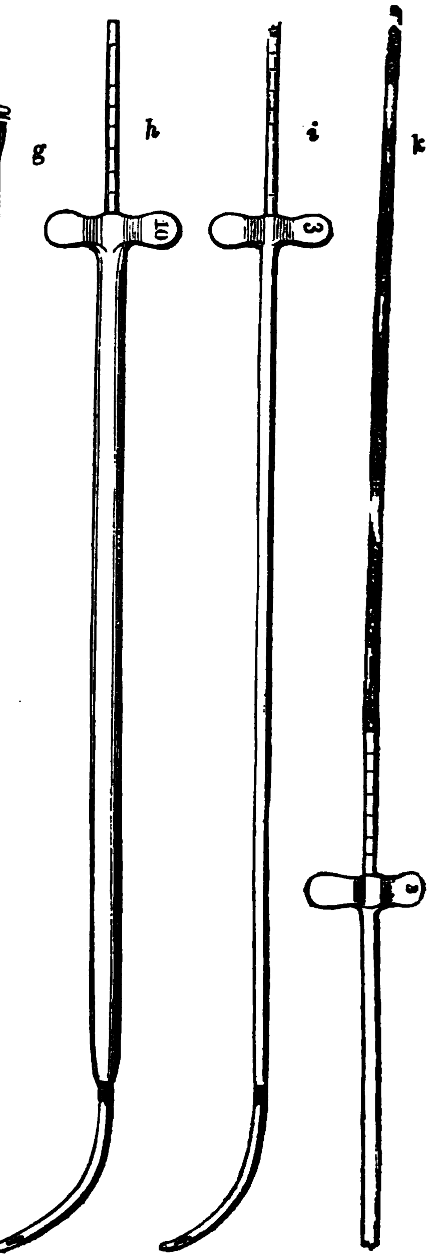
mand of the pervious urethra. This is a point of considerable importance, and is accomplished with the greatest ease, by passing one of the *elastic tubes* over the index-rod, as was done in the case of the silver tubes. The flexible tube being in the bladder, *the index-rod is to be withdrawn through it;* this can be done with the most perfect ease and facility. The *flexible tube* may be left in the bladder, to serve the purpose of a catheter, and it will also afford a safe channel or guide for the *re-introduction* of the index-rod. One of the great advantages of these instruments is, that the catheter once having been passed through the strictured part, the command of the free urethra may then be retained. In practice this must always be found of incalculable advantage.

No. 1.



The instruments separately.

No. 2.



The instruments in action.

Lectures
ON
SOME OF THE MORE IMPORTANT POINTS IN SURGERY.

(*Delivered before the Medical Society of London.*)

By G. J. GUTHRIE, Esq., F.R.S.,

Late President of the Royal College of Surgeons of England; Consulting Surgeon to the Westminster Hospital, etc.

Treatment of wounds of the abdomen and intestines. Division of the alimentary canal. Valvula conniventes. Villi in the small intestines. The glands in the intestines.

Mr. President,—I have selected, for this evening's lecture, the Treatment of Wounds of the Abdomen and Intestines, for the same reason as on the last occasion; for although the subject ought to be as well understood as the present state of our knowledge admits, it is nevertheless otherwise; arising I suppose from the circumstance that these accidents are of infrequent occurrence, and it is therefore possible may not be so well taught or studied as others to which the surgeon expects to be more often called, or into the nature of which he may more frequently inquire. A summary view of the leading facts connected with them may not therefore be unacceptable to the Society.

I shall confine myself, with respect to the anatomy of the parts within the walls of the abdomen, to the intestines, of which, by the aid of Mr. Quekett, I have much to show, which will I hope be interesting to those who have not had time to attend to the subject.

The division of the alimentary canal, below the stomach, into small and large intestines, is useful, not only from the difference of structure, but of function. The small intestines include the duodenum, jejunum, ileum, the large intestines, the cæcum, with its appendix vermiformis, the colon, and the rectum.

If an intestine be divided circularly, in any part, its walls will be found to be composed of three principal coats or tunics, which are, commencing from the inside—the mucous, the muscular, and the serous or peritonæal, each being separated from the other by a layer of areolar tissue. A diagram thus made would show a transverse division of the intestine, and eight distinct, if not all different parts. Beginning from without—viz., serous or peritonæal, areolar or sub-serous; longitudinal muscular, areolar; transverse muscular, areolar or sub-mucous, and epithelial. The mucous coat in man having a peculiarity not observable in animals, of ledges or shelves projecting into its cavity.

When the mucous coat of the duodenum is examined with the naked eye, the first part of its course presents a tolerably smooth appearance, gradually, however, becoming irregular in transverse folds, which are so numerous, marked, and regular, in the jejunum and ileum, as to have obtained, from the earliest times, the name of valvulæ conniventes. They are most strongly marked in the jejunum, and gradually disappear towards the lower part of the ileum, the inner surface of the large intestines being still smoother than any part of the small, although, in the colon, large pouches or cells are formed by a peculiar arrangement of the muscular coat. The preparation No. 716, in the museum of the College of Surgeons, shows the valvulæ conniventes, the upper half white, the lower half a brilliant red, the vessels being filled by injection. Preparation No. 713 shows twenty valvulæ conniventes in five inches of the jejunum, or four to an inch, each valve being composed of a fold of the mucous coat, lined above and below by areolar texture, containing its vessels and nerves. These valves never extend completely around the inside of the intestine, and rarely more than half or two-thirds, although they sometimes bifurcate, as may be seen in the preparations. These valves, as well as the whole mucous membrane, have a velvety appearance, which has obtained for this coat the name also of villous, as well as mucous—a peculiarity which is well marked in the injected preparation.

Valvulæ conniventes are peculiar to man; none exist in the ourang-outang or chimpanzee. In the frog, there are valvular folds, appearing, at first sight, like the valvulæ conniventes of the human subject; but on a careful examination, they are found to be mere elevations, without villi. In the tortoise there are similar folds, running, however, in a longitudinal or opposite direction. In the rhinoceros, Mr. Quekett has shown, in some beautiful preparations, the mucous membrane raised up into villiform processes, somewhat like valvulæ conniventes, or large villi; but they are not villi, as each process is covered with other projections, which are really villi. A valvula connivens consists of two layers of mucous membrane and submucous tissue, but the muscular coat is not continued into them.

When this part is examined microscopically, the velvety appearance is found to consist of innumerable small processes which have been called villi, each villus being composed principally of a very thin transparent membrane, termed by Mr. Bowman, *basement membrane*, by Mr. Goodsir, *germinal membrane*, forming a sheath or case, enclosing within it an artery, vein, a capillary plexus, and an absorbent vessel termed *lacteal*. A nerve has not been discovered, although it is presumed to exist. These villi are longest in the duodenum, and gradually diminish in number and in size from $\frac{1}{25}$ to $\frac{1}{50}$ of an inch. Between these villi or projections, holes or openings are observable, termed the follicles of Lieberkühn, who first described them; they resemble inverted villi, being in some instances as deep as the villi are long. They are unlike the villi found throughout the intestines. The villi in every part, in common with all mucous membranes, are covered, and the follicles are lined by epithelium, which in this instance is the columnar, situated on the basement membrane, each column being attached by its parietal extremity. A layer of this epithelium extends between the villi, and down to the lower part of each follicle, each column being, generally shorter and rounder than when covering the villi.

The office of the epithelium of the villi has been stated by Mr. Goodsir to be *protective*, that of the follicles, to be *secretive*. It has been shown by his researches, which are published in his "Anatomical and Pathological Observations," (Edinburgh, 1845,) that the opinions entertained by Mr. Cruikshank and Dr. William Hunter, that lacteals had open mouths on the surface of the villi, and which opinions may even now be taught as well as believed by some persons, were erroneous. That, on the contrary, a villus composed as I have described, is seen when duly magnified to have a bulbous extremity, without an opening, and to be covered by epithelium, when the intestine is in a state of quiescence, uncalled upon for any purpose of digestion. When digestion commences, the epithelium is separated and thrown off. Mr. Goodsir says, "As the chyme begins to pass along the small intestine, an increased quantity of blood circulates in the capillaries of the gut. In consequence of this increased flow of blood, or from some other cause with which I am not yet acquainted, the internal surface of the gut throws off the epithelium of both villi and follicles, which are intermixed with the chyme in the cavity of the gut. The cast-off epithelium forming $\frac{19}{20}$ ths of the covering of the villus, is of two kinds, that which covers the villi, and which, from the duty it performs, may be termed *protective*, and that which lines the follicles is the columnar of Dr. Todd, the cylindrical of Henle, the prismatic of Mr. Bowman, and is endowed with secretory functions," may be termed *secretive*, each column having a nucleus situated at different parts of it, and bulging out that part.

The villi being now turgid with blood, erected and naked, and covered by the chyme mingled with the cast-off epithelia, commence their functions. The summit of the villus becomes at first somewhat flattened, and crowded under the basement membrane with a number of new formed and perfectly spherical vesicles, varying from 1000 to less than 2000 of an inch in size. Towards the body of the villus or the inner edge of the vesicular mass, minute granular or oily particles are situated in great numbers, and gradually pass into the granular texture of the substance of the villus. As the process advances, lacteal vessels are shown passing up from the root of the villus, subdividing and looping as they approach the spherical mass, which in this stage has become more distinctly vesicular, although no distinct communication can be detected between them. The bloodvessels and capillaries in injected preparations are now seen, coloured red and running up to the basement membrane, looping with each other immediately beneath it, and ending in one or more venous trunks. The vesicles, quite distended, and grouped in masses, push forward the membrane, and give to it, by these inequalities, an appearance resembling that of a mulberry.

The minute vesicles above noticed fulfil the important office of absorption, by drawing into their cavities through their walls, by a process called *endosmosis*, that portion of the chyme necessary to form chyle; and when filled with it they burst or dissolve, their contents being thus discharged into the texture or substance of the villus, fit to be taken up by the granular vesicles interspersed among the terminal loops of the lacteals and communicating with their trunks, running up from the root of the villus in their centre. Absorption is then shown to be effected by closed vesicles, and not by vessels opening on the surface of the villus.

The *débris*, and the contents of the dissolved chyle-cells, &c., pass into the looped network of lacteals, as in other lymphatics. When the gut contains no more chyme, the flow of blood to the mucous membrane diminishes, the development of new vesicles ceases, the lacteals empty themselves, the villi become flaccid, and the cast-off epithelium is reproduced, apparently from the nuclei in the basement membrane, in the intervals of digestion, showing that this function should only be induced at regular periods, the presumed special use of the epithelium being to prevent, in a measure, the absorption of any effete or other matters which might exert a deleterious influence on the system, the epithelium of the follicles now secreting a mucus which may be considered protective.

The first or receiving stomach of the porpoise, of which there is a beautiful preparation in the Museum of the College, is lined by a thick coating of epithelium, not being intended for digestion; the digesting portion of the stomach, on the contrary, is highly vascular, and to all appearance devoid of epithelium, thus giving support to the views entertained of the use of the epithelium in the human intestine.

In the large intestines there are no villi, but the whole surface is covered with follicles, which must be capable of absorbing as well as of secreting, as it is now ascertained that persons can be nourished and kept alive for many weeks by nutritious enemata which do not pass into the small intestines.

In the largest animals, such as the whale and the elephant, the villi and the follicles are smaller than in man and in many other of the lesser animals, such as the rabbit and the hedgehog. In the elephant a tolerably high power of the microscope is required to make them out. On viewing the surface of the mucous membrane of man injected under the microscope, the appearance of the villi and the opening of the follicles between them in the small intestines is very distinct from that of the large intestines, in which there are no villi, but merely the opening of the follicles. The common fowl, and most birds of the gallinaceous order, are exceptions to the rule, villi being found in the large intestines, of a larger size in the lower part of each cæcum, but which diminish both in number and size, as they approach the cæcal extremities, where the structure is follicular only.

The villi of the small intestines in many birds and animals confined in the Zoological Gardens, are subject to a disease from which many die. It commences by a deposit in the villi, which become enlarged to three or four times their original size, sometimes beginning in a single villus, at others, in clusters of villi, in which case the disease usually goes on forming large masses, nearly an inch in length, which after a time soften like tubercles, and finally terminate in ulceration and rupture of the muscular and serous coats of the bowel.

The mucus of the intestines is coagulable by acids generally, and is solidified by the acetic, although it is dissolved by none. When dried, it differs from the mucus of the Schneiderian membrane in not swelling up and becoming transparent on the addition of water, unless an alkaline solution is added. Caustic potass dissolves it.

On examining the mucous membrane of the stomach, its follicular structure is immediately seen, the follicles resembling much in appearance those of the intestine; but in the stomach minute tubes are found opening into the bottom of each follicle, fulfilling in all probability, a different office, the follicles being lined by columnar epithelium, the tubes by spheroidal or glandular epithelium, and it is therefore presumed that the gastric juice is secreted by the tubes, the mucus by the follicles. The tubes differ in the middle and lower parts of the stomach, by being longer or deeper-seated, and more numerous as they approach the pylorus, showing in all probability, a difference of function between the upper and middle, and the pyloric, or lower extremity of the organ.

The intestines are supplied with glands, not apparently for the purposes of absorption, but of secretion, which require attention. They are the duodenal of Brunner, the agminated of our countryman Nehemiah Grew, and of Peyer, and the solitary, which are found in the lower part of the small, and in the whole course of the large intestines.

The *glands of Brunner* are situated at the commencement of the duodenum, within an inch of the pylorus, and are not visible until the serous and muscular coats are removed from without. They appear to the naked eye like little white eggs of an insect. Under the microscope each little gland is found to be lobulated, and very much resembling a small portion of a salivary gland or pancreas, each lobule having an excretory duct, which unites with those from other globules to form one larger one opening on the mucous surface of the bowel. The lobules themselves are made up of vesicles, within which the secretory cells are discernable.

The *agminated* glands of *Grew* and of *Peyer*, by the latter of whom they were more minutely described, occur in oval patches at irregular distances throughout the jejunum and ileum, and are situated on the side immediately opposite the part where the mesentery is united to the bowel. Each gland resembles somewhat a Florence oil-flask in shape, the small end or mouth, which is more or less pointed, projecting through amongst the villi or the follicles. They are composed of cells, supplied by capillary vessels, which Mr. Quekett says have the peculiarity of being unsupported by areolar tissue, and are termed by him in consequence *naked*. These are the glands which are found more or less diseased after phthisis and fevers which have terminated fatally. The oval form of the patches is retained, although considerably raised above the general surface of the mucous membrane, and when injected the parts around are more vascular, the ulcerated portion being less so than usual.

The *solitary* glands are best seen in the cæcum and appendix vermiformis. They are well developed in the fœtus, projecting slightly above the mucous membrane. Each gland may be considered as one of the agminated form, much enlarged, and when the free surface is very flat, an opening may be easily seen in the centre. These glands are also frequently the seat of ulceration in fever, dysentery, and particularly in phthisis, of which many beautiful specimens have been preserved at the College. The follicles partake of this disease, and the whole mucous coat may be destroyed. In some cases there is an attempt at healing, and the edges of the ulcers become more vascular, and even villous.

The sub-mucous areolar tissue,—the tunica nervosa of Haller, the *fibrous lamella* of Cruveilhier,—separating yet connecting the mucous with the muscular coat of the intestine, was described by Cruveilhier as formed of a very distinct network, the filaments or lamellæ of which can be separated by inflation or infiltration. The fibres of which it is composed are now known to be the yellow elastic, and the white or non-elastic, the latter of which predominate. It is more firmly connected with the mucous than the vascular coat, and in it the bloodvessels and nerves are supported prior to their distribution in the mucous membrane. This sub-mucous tissue or structure prevails also in the stomach, and is often much altered by disease, becoming thicker, and assuming a more dense and sometimes an almost gristly hardness. It is an important part in the surgical treatment of wounds of the intestines. Mr. Quekett, finding it firmer, stronger, and more elastic in reptiles, more distinct in carnivorous than in herbivorous animals or in man, has favoured me with the following comparative table:—

1. Alligator.
2. Turtle.
3. Leopard.
4. Cheetah.
5. Horse.
6. Pig.
7. Peccary.
8. Seal.
9. Dog.
10. Cat.
11. Man.
12. Porpoise.
13. Chimpanzee.
14. Monkey.
15. Bear.
16. Ox.
17. Rat.
18. Rabbit.

The muscular coat of the intestines is in two layers, the internal being composed of fibres running transversely, the outer fibres running longitudinally, and are thickest in the duodenum and rectum. They are of the *involuntary* or unstriped kind, as opposed to the *voluntary* or striped, which are of large size, and characterized by striæ running transversely and longitudinally. Dr. Martin Barry, in the *Philosophical Transactions*, and Mr. Bowman, in the "Physiological Anatomy of Man," article *Locomotion*, and Dr. Todd, in the "Cyclopædia of Anatomy and Physiology," article *Muscle*, differ as to the cause of these appearances, and to these works I refer you for the best account of them. They may, however, be considered to be produced by the manner in which the fibre is built—viz., by being composed of minute-beaded filaments, which have received from Mr. Bowman the name of fibrillæ, when shown separated in slips of voluntary muscle, from which they may be also separated transversely in discs.

The involuntary fibres, on the contrary, are much smaller in size, are always more or less flattened, and present no trace of striæ or stripes, although the interior appears granular, with an occasional nucleus. The heart is a remarkable exception to this rule, being an involuntary organ, with mixed fibres differing in size, and resembling in this respect those of a voluntary muscle.

The peritonæal coat is formed of the white fibres, under a structureless or basement membrane, covered by tesselated epithelium, constituting a serous and secreting membrane.

In the year 1847, I published my opinions on the Treatment of Wounds and Injuries of the Abdomen in as condensed a form as I thought expedient for the benefit of students, for whom they were especially intended. They must now undergo a much greater degree of condensation to be brought within the compass of a single lecture, and become in consequence, aphorismal.

1. A blow on the wall of the abdomen, from any solid substance, causing a severe bruise, often, if not always, gives rise to the absorption of the muscular fibre, and the subsequent formation of a ventral hernia. It is desirable, in all such injuries, to prevent or to subdue inflammation as soon as possible, in order to obviate the formation of matter between the layers of muscular fibres, which is a disagreeable, if not always a dangerous consequence. Severe blows or contusions from falls may rupture the hollow as well as the more solid or fixed viscera, causing death. A child just able to walk was placed under my care in the Westminster Hospital, having been tossed up into the air by its father with his right hand, and caught in its descent in the crutch formed by the thumb and fingers of the left, on the thumb of which it at last fell. The integuments seemed to be unhurt, the small intestine was ruptured, and the child died. I have seen all the viscera of the abdomen ruptured, at different times, from non-penetrating blows or wounds, the sufferers usually dying from hæmorrhage.

2. When an *incised* wound is made through the wall of the abdomen, except perhaps in the linea alba, the parts, when vascular, are rarely found to unite in a permanent manner, so that a ventral hernia is the result. The knowledge of this fact, acquired during the war in Portugal and Spain, led me first to doubt the propriety of, and when confirmed by subsequent experience, to forbid the introduction of ligatures through muscles for the purpose of keeping in apposition parts which could not ultimately cohere.

In all simple wounds of the abdomen, of even a moderate extent, the edges of the wound should be brought together by means of a small needle and silk thread, precisely in the manner a tailor would fine-draw a hole in a coat, or a lady a cut in a cambric pocket-handkerchief, sticking-plasters over it, no bandage. The *position* of the patient should be of the gentlest inclination of the body towards the wound, the limbs being bent so that the parts may press against each other. *Absolute* rest is no less to be observed, and steadfastly continued. In the position the patient is placed in he should remain. When I became an examiner of the Royal College of Surgeons, the practice of the older surgeons I found there was to purge such patients *vigorously*, in the same manner as they purged persons who had undergone the operation for hernia; against both of which practices I protested until they were condemned and reprobated—improvements the surgery of civil life owes, among many others, to her elder but less fortunate sister, the Amazonian of warfare.

The custom of directing a man to be bled forthwith, as well as purged, because he had been stabbed, was another and not less esteemed error, with my older colleagues, which experience did not sanction, and which I could not approve. The abstraction of blood before reaction has begun, after the constitution has sustained a severe shock, delays it, as well as the commencement of the inflammatory stage necessary for the cure of the wound. The abstraction of blood is to be directed and regulated by the signs of reaction which have taken place, and by the augmenting intensity of the symptoms of inflammation which may follow. The quantity required is often large, although too much will do harm. Leeches are very beneficial, and I have often applied from twenty to a hundred with the greatest advantage.

The *pulse* is by no means a guide to be relied upon, a small, low, and sometimes not even a hard pulse, being more strongly indicative of an overpowering state of inflammation than a quick and full pulse; and much more depends on the fixed pain, the anxiety, and the general oppression, than on the apparent state of the circulation. Long before general and local bleedings cease to be of advantage, calomel and opium will render most important services, particularly the latter.

3. Penetrating wounds of the abdomen are frequently followed by an immediate protrusion of some portion of the contents of the cavity. When the omentum has protruded, it should be returned as gently as possible; the finger should not follow, to ascertain its position; it should be left free from strangulation within, but in contact with the cut edges of the peritonæum, to which it is desirable it should adhere, as they are not likely to unite one with the other. The external wound is then to be sewed up as I have directed, and the stitches are *not* to be carried through all the intervening parts down to the peritonæum, as is directed by most, if not all authors whose writings are of ancient and even of modern date.

4. When the opening through which the omen-

tum and intestine, or both, have passed, seems too small to admit of their being returned, the latest writers on this subject recommend that a director should be introduced between the upper portion of the wound and the protruded part, upon which a blunt-ended bistoury is to be passed into the cavity as far as the enlargement of the wound seems to require, when they are to be withdrawn together; —*from all which I dissent.* The difficulty does not usually lie with the opening in the peritonæum, but with that in the aponeurotic or tendinous expansions, and it is this part only should be divided. A small cut in the peritonæum is not dangerous; a larger one is, and should always, if possible, be avoided, for however indifferent a quarter of an inch, more or less, may be in a large wound, it is not so in a small one. The protruded parts should be gently cleansed with warm water, with which the fingers of the surgeon should be wetted, and then returned, the mesentery first, then the intestine, and the omentum last. At a later period, if the omentum be found protruded, adherent, inflamed, in a state of suppuration or gangrene, it should be left to itself, and treated in the most simple manner. A ligature should never be applied to it as whole, although it may be applied to a bleeding vessel of any part which has been cut, or which it may be necessary to remove. It should not, however, be spread out in these cases, and cut off, as is usually recommended, as it will gradually retract, and be withdrawn into the cavity of the abdomen, if the patient survive. An omentum wounded in the first instance, is in the best situation when placed just within and against the cut edges of the peritonæum; it is never in a better under any circumstances, except when it adheres to them.

5. When an intestine is protruded, it is to be treated in a similar manner, and the three great directions on this subject, of modern surgeons, are to be *avoided:* do not therefore cut the peritonæum, do not unnecessarily introduce your finger into the cavity of the abdomen, and be most careful to avoid, above all, the third direction, "that the patient is to be placed in such a posture, that the intestines should *least* press against the wound." On the contrary: relax every part, keep the patient perfectly at rest, and if you can so manage, that the intestine shall be steadily applied against the cut peritonæum, without protruding between the edges, so as to be in the best possible situation for adhesion. The external wound should be accurately closed by the continuous suture, supported by adhesive plaster and a compress, and a proper bandage, if it can be methodically applied.

6. When the intestine is wounded, as well as protruded, the case is complicated; a mere puncture, or a very small cut, is not to be dreaded, the bowel should be cleaned and returned, and the excess of inflammation closely watched. When the wound in the bowel is larger, but is less than a third, or not more than a quarter of an inch in length, it is less apt than might be supposed to permit the extravasation of its contents in consequence of the villous coat protruding through the opening in the other tunics, the edges of which being in great part muscular, have separated from each other. This eversion of the lining membrane, so conspicuous in wounds, is not seen in ulcerations, the previous inflammation having solidified the parts. Whenever then an opening in a bowel is not filled up by the internal coat, the edges must be brought together by ligature. A ligature placed around an intestine of a dog, cuts its way through into the cavity; and if the animal should survive some months, the part which had been injured will not be easily discovered.

When the wound in the intestine is small, and yet larger than it would be safe to leave to nature, a ligature should be applied firmly around the opening, which should be raised with a pair of forceps, so as to admit of its application. When the wound is larger, the edges should be brought together by the continuous suture in a parallel line. A common needle carrying a fine well-waxed silk-thread, is to be introduced about half a line from the peritonæal edge of the opening, and brought out at the corresponding point on the opposite side, a knot on the end of the thread preventing its slipping. The first stitch should be a line from the end of the wound, and the last should terminate with a knot at a similar distance. The stitches should not be tightened when made, but left loose until all are inserted, when they may be drawn close, one after the other, the cut edges being turned in by a probe, so that the peritonæal surfaces may be in contact under the stitches, the divided edges being turned into the cavity of the bowel. It has been advised not to pass the needle through the mucous coat, but only through the strong areolar tissue connecting it with the transverse muscular coat. It is apprehended that if this could be accurately done, which may be doubted, the ligature might not ulcerate its way through to the cavity of the bowel. It is therefore better to pass the needle through all the coats, until further observations shall have been made on man on this point.

7. When an incised wound in the intestines is not supposed to exceed a puncture in size, or is less than a third of an inch in length, no interference should take place; for the nature and extent of the injury cannot always be ascertained, without the committal of a greater mischief than the injury itself. When the wound in the external part is made by an instrument not larger than one-third, or from that to half an inch in width, no attempt to probe, or to meddle with the wound, for the purpose of examining the intestine, should be permitted. When the external wound is made by a somewhat broader and longer instrument, it does not necessarily follow that the intestine should be wounded to an equal extent; and unless it protrudes, or the contents of the bowel be discharged through the wound, in the first instance, the surgeon will not be warranted in enlarging the wound, to see what mischief has been done. For, although it may be argued that a wound four or more inches long has been proved to be oftentimes as little dangerous as a wound of one inch in length,

most people would prefer having the smaller wound, unless it could be believed, from calculation, that the intestine was also injured to a considerable extent. Few surgeons, even then, would like to enlarge the wound, to ascertain the fact, unless some considerable bleeding, or a discharge of fæcal matter, pointed out the necessity for such operation; when there would be reason for believing that the patient would have a better chance of recovery, after the application of a suture to the wounded artery, or bowel, than if it were left to Nature.

If the first two or three hours have passed away, and the pain, and the firm, not tympanitic swelling in the belly, as well as discharge from the wound, indicate the commencement of effusion from the bowel, or an extravasation of blood, an enlargement of the opening alone can save the life of the patient, although the operation may probably be unsuccessful. It is not, however, on that account to be always laid aside, when the state of the patient offers even a chance of success. The external wound should be enlarged, the effused matter sponged up with a soft moist sponge, and the bowel or artery secured by a suture. When a penetrating wound, which may have injured the intestine, has been closed by suture, and does not do well, increasing symptoms of the inflammation of the abdominal cavity being accompanied by general tenderness of that part, and a decided swelling underneath the wound, indicating effusion beneath, and apparently confined to it, the best chance for life will be given by reopening the wound, and even augmenting it, if necessary, to such an extent, as will allow a ready evacuation of the contents of the bowel. It is a point in surgery which a surgeon should contemplate in all its bearings. The proceeding is simple, little dangerous, and under such circumstances, can do no harm. I have seen instances in which it has been done, and others in which it might have been done, with some hope of its being beneficial; and I recommend it for the serious consideration of those who may hereafter have the management of such cases.

8. When the abdomen is penetrated, and considerable bleeding takes place, and continues, it becomes necessary to enlarge the opening, and look for the wounded vessel. If the hæmorrhage should come from one of the mesenteric arteries, or the epigastric, two ligatures are to be applied on the injured part. If it should be presumed that the enlargement of the wound and the search for the wounded vessel is not likely to be effected with advantage to the patient, the wound should be closed by suture, and a compress laid over it. If the bleeding should continue internally, and the wounded part become distended, and tense, the sutures may be in part removed to give relief.

If the belly should become very painful, tense, and manifestly full after a punctured wound, and not tympanitic, the wound should be enlarged to allow the evacuation of the blood, which cannot in such quantity be absorbed. Extravasations of blood of a determinate quantity are not found to be diffused all over the surface, and between the convolutions of the small intestines, provided the person have outlived the period of extravasation, and may be readily evacuated provided the wound be sufficiently open. It may, when confined without an external opening, be absorbed, but it is more likely to give rise to suppurative inflammation, and the formation of matter requiring with it to be discharged by an opening made for the purpose. Cases of extravasation terminating in this manner, are very rare in our northern climate, where inflammation usually runs high in the first instance. That they do sometimes occur should not be forgotten, and that surgery should not be wanting to give its aid.

The proper treatment of gunshot wounds of the belly is a subject for which we have not time, and I can only refer to my work on "Injuries of the Abdomen," where it is fully pointed out.

A Course of Lectures

ON

SURGICAL MANIPULATION;

EXPLAINING THE USE AND METHOD OF EMPLOYING THE VARIOUS KINDS OF BANDAGES, INSTRUMENTS, AND APPARATUS,

SO ARRANGED AS TO FORM A CONCISE INTRODUCTION TO THE PRACTICE OF OPERATIVE SURGERY.

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LECTURE VII.

Bandages for the Pelvic Region, (*continued.*)

Bandages for the Legs.

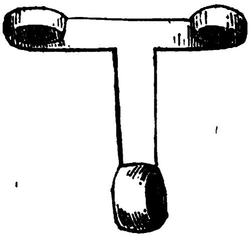
The bandages required for the perinæum, properly so called, are employed to assist in the cure of certain diseases of the rectum and uterus, in which pressure is found to be of service, either applied by means of pads and a simple bandage, or more directly by some special instrument or apparatus constructed purposely for the object. These latter I shall describe when considering the treatment of the diseases peculiar to the parts for which instruments are required.

The different kinds of perinæal bandages all act upon the same principle—viz., that of giving support, by making pressure upon the part, in a direction upwards within the pelvis; and to do this, a point of resistance must be obtained before the perinæal strap or bandage can be made to act, which can be done by means of a band passed round the pelvis or lower part of the abdomen, to which the other is to be attached before and behind. The principal part of the band must grasp the pelvis, and not press upon the abdomen above, for the obvious reason that the one pressure would then counteract the other; for while the perinæal strap would be pressing upwards, the circular one round the abdomen would be pressing downwards, and would have more power than the former, both from its situation as well as from the weight of the viscera facilitating its action in this direction.

The simplest form of perinæal bandage is that of the common T; it is also very effectual in its action, if properly made and firmly applied. This kind of bandage may be required to keep dressings and poultices to any part of the region of the perinæum, and keep up pressure against the anus for prolapsus or hæmorrhoids, and to keep pessaries or other instruments in the vagina. It may also assist in keeping a catheter in the bladder in the male, as well as for the purposes described in the last lecture, when made of a large size, to confine dressings in the scrotum.

The simple T bandage is made of two pieces of linen cloth, folded, or of jean; one portion is to constitute the pelvic band, and must therefore be long enough to encircle the pelvis, overlapping it slightly, and to fasten with strings or buttons. The other or perinæal portion is attached to the centre of the pelvic portion at its lower edge, and is of a length sufficient to pass upwards between the thighs, and to be pinned in front. The shape of the bandage before its application is shown in

FIG. 56.

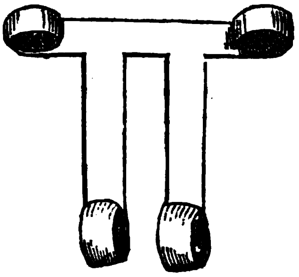


Simple T *Bandage.*

When the bandage is applied, the following points must be attended to:—Place the pelvic band in a position that it may embrace the pelvis across the two iliac bones, and not the abdomen just above, for two reasons—the one, that the bandage will have a firmer and more steady hold; the other, that pressure upon the viscera will be avoided. The perinæal band is then to be spread evenly, and brought up in front between the thighs, and to one side of the scrotum, (if employed for the male,) and pinned to the band in front. The width of this perinæal band must be regulated according to the purpose for which it is used; if to keep a large poultice on this region, it must of course be broad in proportion; if merely to confine dressings, is may be made narrower. In the male subject it will be found convenient to split the front part of the perinæal band into two tails, so that one may pass on either side of the scrotum, and so ensure the broad and unsplit portion keeping its position in the median line with more certainty.

There is another form of T bandage, called the double T; it consists of two perinæal bands, sewn at right angles to the centre of the pelvic band, at a distance of an inch or more from each other. It possesses some advantage over the single T, being capable of marking more pressure, and over a larger extent of surface, by crossing them obliquely, instead of passing them directly upwards; they also avoid the scrotum in the male. The point to be attended to, in crossing the bands, is to pin the tails in front on the opposite sides from those at which they are attached behind. Thus the right one passing obliquely across the perinæum must pass up the inside of the left thigh, and be pinned over the left groin, and the reverse with the other band. The woodcut (fig. 57) shows the shape of the bandage before application.

FIG. 57.



Double T *Bandage for the Perinæum.*

These simple forms of the T bandages just described may, if properly shaped, and nicely adjusted, answer many purposes, and be made to supersede other more complicated and special apparatus; and one great advantage they possess is that of being so easily obtained, and of being made with so little trouble.

In prolapsus ani and prolapsus of the uterus, the T bandage may be made very serviceable in keeping the parts in situ, and from protruding externally, and so relieving the patient from a deal of suffering, when circumstances do not admit of proper apparatus, more effectually fitted for the purpose, being obtained. A firm pad, made of linen rag or lint, folded into the shape of a long pyramid or of an oval, and then covered with oil-skin, to keep it clean, may be sewn to the perinæal band, at a point opposite to the anus or vulva, according to the nature of the case for which it is used: if for prolapsus uteri, the pad should be long, to extend a little beyond the edge of the vulva backwards, so as to press upon the perinæum as well. By this means the uterus will be more directly supported than if the pad pressed merely against the external opening of the vagina—though of course it acts no further than in preventing the outward protrusion of the part; but this, in the majority of cases, affords great comfort to the patient, and relieves her from many of her distressing symptoms, by diminishing the dragging pain, as well as the soreness produced by the exposure of the uterus, and the portion of the vagina brought down with it, from irritation, caused by friction against the thighs, and also against the patient's dress.

There is another form of perinæal bandage, lately described by Mr. Nunn,* and said to have been described also by Dr. Blundell. It consists of a pelvic band, closely adapted to the pelvis, and two broad perinæal straps, made to fasten to it at points at the back and front of opposite hips: thus the right one fastens to the back of the right hip;

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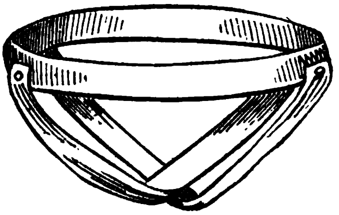
* THE LANCET, vol. i. 1850.

then passes downwards beneath the perinæum, up on the inside of the left thigh; then up in front; and buttons or buckles in the front, and to the outer side of the left hip. The left one passes in the opposite direction, beginning at the back of the left, passes obliquely across the other and beneath it, then up in front, and fastening to the outer side of the right hip. The advantage, as Mr. Nunn states, "that this particular arrangement has over any of the other different modifications of the T bandage is this—namely, it affords a perfectly steady, unvarying amount of support, the tension upon the various parts being quite unaffected by the movements of the trunk. The reason of its possessing this advantage will be apparent, when it is taken into consideration, that whilst the pressure is being made upon the perinæum, the *points d'appui* are at the margin of the ilium, and that therefore the distance between the point of pressure and the points of tension can neither increase nor diminish." The woodcut (fig. 58) represents the bandage.

Fig .58.



Double Oblique Cross Perinæal Bandage.

The objection to this bandage is this: is does not close the opening of the vagina so decidedly as the common T bandage, which is made to pass vertically upwards over the vulva, and to fasten above the pubes. The perinæum itself, however, it supports very effectually.

The other special kinds of apparatus for the treatment of prolapsus I shall describe hereafter.

The next bandages that have to be considered in connexion with the pelvic region are those for keeping dressings and poultices on the penis—(the means of doing so on the scrotum I described in my last lecture)—and for keeping a catheter in the male bladder, which is often required in the treatment of stricture, and for operations about the urethra and bladder; the successful issue of which may depend upon the prevention of the escape of urine through the wound and opening that may have been produced either by the surgeon or by disease itself, such as sinuses, fistula, &c.

Dressings for the penis may be kept on, when required for the body of the part, by means of strips of adhesive plaster carried spirally round it, in separate pieces, made one to overlap the other, as is done in the many-tailed bandage for other parts of the body. In some cases a bandage, very narrow, may be passed spirally round, beginning towards the glans, and making the pressure diminish gradually towards the root of the penis. The most difficult kind of dressing to keep on the penis is a poultice, an application which is often necessary in large, sloughing, and other ulcers, arising from various causes, situated in the glans, and spreading beyond it.

The most complete way to keep the poultice on is by making a simple bag of a size sufficiently large to hold it, and then to sew four strings or tapes of a length to pass round the loins and beneath the thighs, and to tie at the back. When it is not wished to take the trouble to make this bag, the following plan may be adopted:—Take a piece of linen rag of about a foot square, and larger if required, and spread out the poultice in the centre of it; you then draw the edges round the poultice, forming it into a kind of bag, into which you place the penis, seeing that the diseased part be well covered; you then take a piece of tape or narrow bandage, and tie the bag so formed round the root of the penis close to the pubes. (This is an important point to attend to, so as to ensure the bag being of the proper size.) The loose portion of the rag not included in the bag is now to be spread out, so that it may lie quite flat upon the lower part of the abdomen just above the pubes and upon the scrotum; two small slits are then to be made, one above the other on either side, and near to the edge to the rag, through which are to be passed two long strips of bandage, which are then to be passed round to the loins, and beneath the thighs, and to be tied together at the back of the hips. The poultice will not now slip off, if the circular tape round the root of the penis be moderately tight.

If the above kind of bandage cannot be obtained, a simple piece of rag, containing the poultice, may be placed on the penis, and be confined by two handkerchiefs, made into the shape of the T bandage, taking care to spread the one out which passes under the scrotum and penis, before it is pinned to the handkerchief in front.

The Different Methods of Fixing a Catheter in the Bladder.

It may be requisite to keep a catheter in the male bladder for a length of time, to facilitate the cure of strictures of long standing, or the healing of fistulous openings communicating with the bladder or urethra, or to prevent the urine escaping through wounds after certain operations connected with these parts. It is a matter of importance, then, to know how to do this, and one of the following methods may be adopted; by passing narrow tapes through the small rings at the end of the catheter, (or on to the end of the catheter itself, if made without them,) and then fixing the tapes by some contrivance at or near to the root of the penis. There are four kinds, any one of which may be used. The first is composed of a common suspensory bandage, to which two small rings are attached; through these the tapes are passed, and the two ends on either side are then tied together, the catheter being held by an assistant in a position slightly downwards, and as far into the bladder as may be required. This is generally described as Mr. Hunter's method. The objection to it is, that it entails the necessity of procuring the suspensory bandage first, which cannot always be done; it otherwise answers the purpose well. The second method is described as the French; it consists of two India-rubber rings, of sufficient elasticity to surround the penis with a degree of pressure to prevent them slipping, and without constricting the part in a manner to produce obstruction to the circulation. They are used as follows:—Having passed the catheter into the bladder, with a long, narrow piece of tape through the eye on either side; the two India-rubber rings are to be passed over the penis in such a manner that one end of the tape on either side may be included within them, and made to lie in contact with the penis; one of the rings should be placed near to the root of the penis, and the other just beyond the glans. The two ends of the tape are then to be reflected backwards to meet the other two, and to be then tied together.

Method of Fixing the Catheter with a Brass Ring.

The third method is composed of a brass ring, with eight tapes attached to it, as follows:—You take a common brass curtain ring, or any other kind of ring of a sufficient size to encircle the root of the penis, without pressing upon it, and attach to it eight narrow tapes or strips of bandage, four of which shall be long enough to pass round the loins and under the perinæum, and to tie together outside the hips; the other four are to be much shorter, but of a length sufficient to pass through the eye of the catheter of either side, and then to tie.

Application.—The catheter being held in proper position in the bladder, the ring is to be passed over it and the penis down to its root; the four long tapes are then to be tied together, either behind or on the hips, with a sufficient degree of tightness to keep the ring pressed close to the pubes. The shorter tapes are passed through the eyes of the catheter, and then tied together on either side; or if two long ones be used instead of four short ones, they may be passed through the catheter and reflected backwards, to be tied to the ring with both ends.

The fourth method is the same in principle as the last, only much simpler in construction, being made with a long strip of calico or linen rag, from four to five inches in width, and long enough to pass round the pelvis, and to tie in front; and two long narrow pieces of tape. It is employed as follows:—You make a hole in the centre of the broad band, of a size to admit the penis with ease: you then split either side of the band into two tails, terminating within two inches of the central hole first made—through this hole the penis is to be passed, in a direction that the four tails may be horizontally across the groins, when the band is placed close to the pubes. These four tails are now to be fastened, by passing two of them round the loins, and then bringing them to the front again, and tying; while the other two are passed beneath the thighs, and then to be brought up on the outside of the hips, and tied in front also. This bandage so applied now forms a foundation for the catheter to be fixed to. The catheter is then to be held by an assistant, while the two long tapes are passed one on either side, through the eyes of the instrument, and tied by their four loose ends to the four tails of the pelvic band, at the point where they are separating from one another, which will of course be near to the root of the penis, and at points sufficiently distant to pull upon the catheter in opposite directions, and so to firmly fix it. The advantage of this method over the ring is, that it can always be obtained, and admits of being so easily made.

This last bandage finishes the description of all the most useful ones required for the pelvic region. As I have already stated, I shall describe those which are made as special apparatus, in connexion with pessaries &c., when describing the instruments for the different regions of the body.

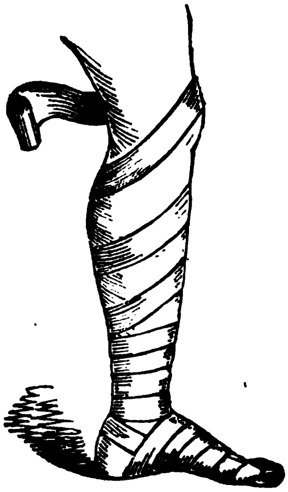
OF BANDAGES FOR THE LOWER EXTREMITY.

Bandages for the lower extremity are required for many purposes—either to retain dressings, to make pressure for varicose veins, to surround the ankle and knee joints, and to retain the various kinds of apparatus for fractures and dislocations. There is one form of bandage which is always brought into requisition for all these purposes, either constituting the whole bandage that it may be necessary to employ, or forming only a part of some other apparatus. This bandage is the common circular or spiral, and attention to the application of which will tend much towards understanding most of the bandages required for the lower extremity, or at any rate their principle.

The bandage commonly used is called the *leg roller:* its width for an adult should be about three inches, or three inches and a half, and its length from six to seven yards, (the length of course varying according to the size of the limb, as well as to the height it has to pass upwards.) There are many points requiring attention in its application. In the first place care should be taken that the bandage is *firmly and evenly* rolled, which can be ascertained by the hardness of the roll when held in the hand; if it be loosely rolled, it can never be applied with the same equal pressure, nor with the same regularity and smoothness. Secondly. Whichsoever part of the limb may be injured or diseased, whether the leg, knee, or thigh, the bandage must always be commenced at the foot, beginning the pressure as low down as the ball of the great toe, and diminishing it gradually as it ascends towards the upper part of the limb, for the obvious reason that the circulation in the veins may not be obstructed in the foot and leg. Thirdly. In passing the bandage round the joints, more particularly the ankle, the *turns* must not be *forced* into position, but be allowed to follow their course easily, till the turn required for the leg inclines horizontally across, instead of obliquely downwards. Constriction of the joint will be avoided by this means, as well as the security of the bandage be ensured when the patient has to walk. Fourthly. Great care must be taken to see that each layer of bandage overlaps the preceding one with regularity and with perfect smoothness. This is essential, to avoid irritation in persons with thin and delicate skins, and where the pressure has to be made to confine dressings on inflamed and diseased surfaces. Finally, the bandage should always be removed and reapplied when pain exists, and is attributable to its pressure, or when swelling exists in one part more than another, and when it has become loosened.

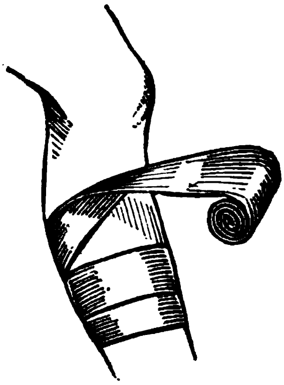
In applying a bandage for the lower extremity, you proceed in the following manner:—You take the roller in the right or left hand, (and you should be able to use both,) and unfold a portion of it, to make a loose end with which to begin, and which you pass round the ankle-joint, placing it as low down as the instep will permit, and to allow the bandage to lie without folds upon it. The turn of the bandage is next to be passed round the foot, and brought close to the toes, being placed on the ball of the great toe; a few turns are made round the foot, and then to be carried once or twice more over the ankle; and when the bandage falls easily upon the lower part of the leg it is to be carried upwards, making each turn overlap the preceding for one-third of its width. And now the most difficult point in bandaging the leg begins—where the alteration takes place in its thickness, from the shape of the calf; for if the bandage were allowed to take its own course, the turns would ascend in a spiral form, without coming into contact with each other, and leave an interspace, which would be sure to swell, owing to the absence of pressure upon the skin, and to the constriction of the turns of bandage on either side. I have given a woodcut, (fig. 59,) to show the course the bandage would take, if allowed to follow its inclination of keeping flat upon the limb.

FIG. 59.



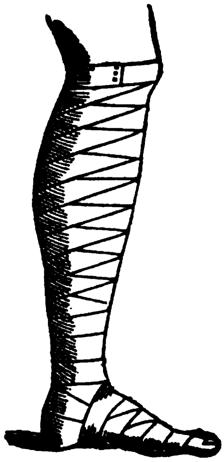
In order to avoid this evil, and to keep the bandage compactly together, it must be turned down upon itself with a smart twist of the hand, so that the reversed edge may lie in contact with the fold previously made. This turn is well expressed by the French word *renversé*, and upon the dexterity with which it is performed depends the close and even adaptation of the bandage to the limb. The reversed folds should be made with a bold sweep, otherwise the turn will be short, and form a cord-like edge, which will press unequally upon the skin, and produce irritation if not removed. The woodcut, Fig. 60, shows the fold *renversé* just referred to.

FIG. 60.



These reversed turns are to be made as high up the leg till the part where the calf begins to diminish again, when the bandage is to be placed flat upon the skin, and carried circularly round the knee, and made to terminate just below it, if not required to be carried higher. Fig. 61 shows the appearance of the bandage on the leg when applied with the precision and neatness necessary to ensure the folds of each turn lying evenly and flatly upon the limb.

FIG. 61.



In my next lecture I shall conclude the subject of general bandaging.

OBSERVATIONS ON

TWO CASES OF LARGE CALCULUS IN THE BLADDER, IN WHICH LITHOTRITY WAS SUCCESSFULLY PERFORMED.

WITH REMARKS ON THE OPERATION OF LITHOTRITY.

By Isaac Massey, M.D., M.R.C.S., &c., Nottingham.

Two successful cases of lithotrity, in which the calculi had attained a large size, having occurred in my practice, I give the particulars, believing them to furnish points of some interest, in showing that the operation of breaking up stones in the bladder may be successfully practised, even when they are hard and of large size.

The first case is that of Mr. P——, of laborious, but intemperate habits, forty-nine years old. He dated the commencement of his symptoms seven years back, since which, up to the date of his admission under my care, he had more or less always suffered, but more so latterly, notwithstanding which he continued at his usual occupation of a bricklayer, till within a short time of the operation. About the middle of August, 1844, he first sent for me, requesting that I would see him directly, as he was suffering from stoppage of urine. I found him in great agony, having attempted with much pain and forcing to empty his bladder. After repeated attempts, he was only able to void about a tablespoonful of urine. On inquiry, I learnt he had been frequently suffering from the same symptoms, but considerably aggravated after free and inordinate potations of malt liquor, to which he was much addicted. He had no idea whatever that his inability to pass urine depended upon the presence of a stone in the bladder. I told him my suspicions, which were soon verified on passing the catheter; the foreign body was lying close against the neck of the bladder, which contained but a few drops of urine. He informed me that when at work he was very frequently obliged to leave it to empty the bladder; he felt a weight and irritation about the seat, and the urine was at times bloody. When passing it in larger quantity than usual it would suddenly stop, and after waiting a little he could then pass more; it would again stop, and thus he was distressed by frequent interruptions to its exit, attended with much pain, forcing, and an irresistible desire to make attempts when none was in the bladder, or only the smallest quantity. It was generally high-coloured. He had pain in the back and loins, and tingling and irritation at the orifice of the urethra. These symptoms existing more or less for many years, had now become so excruciatingly severe as to confine him for the last fortnight to his house; he had thirst, with hot skin, shivering, restless nights, being frequently obliged to get up instantaneously, to relieve his bladder. He was not naturally an irritable subject; he bore pain well; his constitution was good; his urethra was sufficiently large to admit a lithotrite instrument equal to breaking up the stone; he had no disease of the bladder beyond that produced by the presence of a calculus; and although his habits were by no means regular, he was under control. I therefore considered him a good subject for the operation of lithotrity, and advised it, in preference to that of lithotomy. After waiting three weeks, during which he was kept quiet, and under the suitable regimen, taking twenty drops of the tincture of henbane three times a day, with small doses of castor oil every or every other day, as the bowels required; he then for the first time submitted to the operation of lithotrity—viz., on September 4th, 1844. After injecting the bladder, the patient being first placed on the rectangular bed*, the lithotriptic forceps were introduced, the stone was seized without much difficulty, and effectually broken up with the hammer and vice; the larger fragments were then repeatedly seized, in like manner, and further comminuted. A succession of very hard and sharp blows were required before the stone and larger fragments gave way. He was ordered to bed, and in about eight hours much detritus had been passed, with small fragments; he also subsequently ejected a larger quantity in the course of a day or so; in the whole, the quantity collected at this sitting, when dried and weighed, amounted to three drachms. The urine first voided after the operation was high-coloured, being slightly tinged with blood: this was not the case after once or twice. The second operation was performed in a fortnight, (the 27th of September;) again on the 13th of October; also the 22nd of October; and the last time, on the 30th of October. After collecting and drying on paper the whole quantity voided at each sitting, its weight was seven drachms; much had also been lost in drying. After waiting two months, the bladder was injected, and very carefully examined by myself and several other medical gentlemen; it was found quite free from any remains of the calculus. Up to the present period (Sept. 4, 1850) he has continued quite well, and able to resume his occupation at pleasure; there has been no inconvenience whatever since; nor has he had any return of the symptoms under which he had so long and painfully suffered. After the first crushing, he complained of pain in the course of the urethra, had shivering, and great impediment to the flow of urine: a fragment was evidently obstructing the passage. On carefully passing a catheter, it was found high up, beyond the reach of the forceps; an attempt to push it back in the bladder failed; the instrument glided over it; the fragment was imbedded in the substance of the prostate. Suppuration subsequently took place, and with the discharge of matter, in two days the fragment came lower down the urethra, within reach of the forceps; it was thereby, without any difficulty, removed. Several other fragments had at different times to be removed by means of the forceps; in other respects the case progressed most satisfactorily.

The second case was that of a man, J. A——, sixty-nine years of age, a mechanic, admitted a patient of the Nottingham Dispensary, under my care, October 18, 1849; it was a fortnight after the above date that I saw him first; very little inquiry satisfied me of the presence of a calculus in the bladder, which was at once detected near the neck of the viscus, by means of a catheter. He complained of an irresistible desire to void urine, which came on very frequently, and so suddenly as to compel him instantly to make the attempt, attended with much excruciating pain; sometimes he believed his bladder must be quite distended with urine; but after much straining he could not pass more than a few drops, or a tablespoonful, nor could he ever retain more than an ounce and a half, or two ounces at once. It was frequently bloody, very thick, and glutinous; after standing for some hours it would form at the bottom of the vessel a thick ropy mucous substance; more than one half the urine voided during the night would consist of this character of deposit. He walked about with difficulty, he could not sit at his machine for more than half an hour at the longest without being compelled to leave the room in which he worked with his other shopmates, in order to void his urine; but most frequently he had to quit the room every ten minutes or quarter of an hour; nor could he at all times retain it, an involuntary dribbling kept his trowsers wet during the day, and at night he was prepared with napkins to keep the bed dry. The urinous odour when near his person was consequently at times exceedingly offensive; his life had therefore, of late, become a burden to him; the pain and violent straining in attempting to evacuate the bladder, as well as the very unpleasant predicament and nuisance to which he was constantly exposed, added to the evils to which he had become a prey. The symptoms became of late so urgent as to entirely incapacitate him from work. He dated their origin ten years back, since which he had suffered more or less, and had consulted several medical men. On one occasion he thought he had an inflammation in his left side, the pain was so excessive; but after a few days suffering, he passed by the urethra a stone of small size, and the symptoms were relieved. He had several of these attacks, during which the urine was sometimes bloody; they took place generally about every two or three months, but for the last two years previous to the 18th of October, 1849, he ceased to pass any. Near this date he parted with several about the size of a pea, which induced him to apply to the dispensary. After passing a catheter on the 30th October, he had a slight rigor. A drachm of laudanum, with four ounces of gruel, was ordered to be injected into the rectum every night; he took also small doses of Battley's sedative solution of opium three times a day, and a dose of castor oil every, or every other morning, as the bowels required. By these means the pain, irritability, and frequent desire to void urine was much alleviated.

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* The whole set of instruments were made by Mr. Thompson, surgical instrument maker, of Nottingham.

About a week after the last date, (Oct. 30,) the first operation of lithotrity was performed, and was repeated six other times, varying according to the condition of the patient from one to three week's interval. He voided after each crushing a very considerable quantity of fragments of various sizes, and much coarse powder. Several fragments at different periods lodged in the urethra, which had to be removed with the forceps. At the latter end of January, 1850, I thought the bladder must be quite free from any portion; he had regained very much his health, strength, and appetite; he walked with little or no inconvenience; still he had a little impediment to the exit of urine at times, and he fancied there might either be a very small portion in the passage of the urethra, or it might be from the irritation remaining, caused by the previous lodgment of fragments. I passed the sound on more occasions than one, having first injected the bladder without succeeding in detecting any particle. Still I thought there must be some portion yet remaining in the bladder, the symptoms being of a suspicious character—viz., a more frequent desire to urinate than when in health, with stoppages in his urine. The bladder was capacious, and of an irregular surface, which rendered its exploration, even after injection, somewhat difficult. On a subsequent day he was again carefully subjected to another examination. Close to the neck of the bladder, inclining to the patient's left side, an indistinct sound of a small fragment was conveyed by the instrument, which could only now and then be detected. It appeared to be lodged in a small sac, or enveloped in the folds of the mucous membrane. The patient was desired to wait a short time, in the expectation that it would pass by itself. In the course of a few days (March 2,) he came to me, and said, "I believe there is something in the old place," meaning that part of the urethra in which the fragments had previously lodged. I passed the forceps, and readily removed a flat, irregular-shaped portion, somewhat larger than I expected. This most effectually relieved him, since which no inconvenience whatever in voiding the urine was experienced, nor was the inclination to do so more frequent than in health; the urine was neither thick nor slimy. There was no pain; his appetite was good; he walked long distances, rapidly regained his flesh, and was quite free from all the symptoms which had for about ten years troubled him.

March 13th, 1850, he was quite well, and discharged cured.

August 31st, 1850. Quite free from the least return; had fully regained his health and strength, and had worked at his machine since last date, and found no inconvenience whatever.

The operations were performed at seven different periods. The following were the weights of the fragments and detritus when dry. After the first crushing, weight, 1 drachm, 36 grains; second ditto, 1 drachm, 4 grains; third ditto, 1 drachm 9 grains; fourth ditto, 2 drachms, 11 grains; fifth ditto, 1 drachm, 35 grains; 6th ditto, 1 drachm, 36 grains; seventh, 52 grains.

Remarks.—The total weight of the whole collected was ten drachms and three grains, (this did not include the last fragment;) but in giving the above weight, it must not be forgotten that the fragments and coarse powder were quite dry, having been spread on paper for that purpose. In computing the size of the calculi, before they were broken up in the bladder, according to the quantity collected—viz., ten drachms and three grains, allowing for the moisture lost by evaporation, the particles and powder also lost—the gross weight of the foreign bodies, when in the bladder, could not have been less, I think, than two ounces and a half.

It will appear almost incredible that fragments of such large size could pass down the urethra, as in this case; the largest weighed sixteen grains; several of smaller size weighed ten and twelve grains each. It was their angular character which offered the greater difficulty to their exit. A fragment of a larger size, of an ovular shape, and having its long diameter corresponding to the urethra, would pass with less inconvenience than one of a smaller size, having projecting points in different parts of its circumference, which favoured its lodgment.

The calculi in both cases were very hard, composed principally of lithic acid and lithate of ammonia. The principal difficulties attending both cases consisted in the hard character of the stones, the angular nature of the fragments when broken, and the facility thus afforded for their lodgment; the pain and irritation necessarily attending their blocking up the urethra were the only obstacles which interfered during the treatment; but these were comparatively trifling compared with the fearful consequences frequently present in lithotomy.

My notice has been drawn to a case reported in THE LANCET of 1850, occurring in Guy's Hospital, under the care of Mr. Bransby Cooper; after passing over the greater part of the Report, we read, "the patient had suffered four years; he was a healthy-looking man, no disposition to gout or stone was traceable in the family, and up to the commencement of the present affection, the patient had enjoyed very good health, and led a remarkably temperate and regular life." The Report goes on to state,—"The existence of the stone was placed beyond a doubt by repeated sounding; and Mr. Cooper, with a view of measuring the foreign body, passed a lithotrite into the bladder. By this means, it was ascertained that the stone was of considerable dimensions, and the idea of having recourse to lithotrity—which was for a moment entertained—was abandoned, as the number of sittings necessary for crushing a very large and apparently extremely hard calculus would necessarily have been very great." After paying attention to his health, the operation of lithotomy was performed. The stone was the size of a large plum, and weighed six drachms. The operation was performed in the most skilful and dexterous manner, and the patient went on remarkably well for a fortnight after the operation; he then sank under an attack of phlebitis. I am disposed to think that the operation of lithotrity will be substituted for that of lithotomy more frequently than has hitherto been the case. Peritonitis and phlebitis are not unfrequently observed after lithotomy; wounds of the rectum, and injuries to the peritonæum, are likewise much to be feared, hæmorrhage and infiltration of urine, and erysipelas, not unfrequently occur; on the other hand, with ordinary care in the great majority of cases, the operation of lithotrity, if performed early, when the stone is small, or even large, death rarely occurs; bruising or tearing of the mucous membrane of the bladder, or breaking of instruments, is not at all possible in the present improved manufacture of instruments.

In the case reported from Guy's Hospital, the stone was thought to be too large for the operation of lithotrity, its weight being six drachms. In the first case reported by me, that of Mr. P——, the quantity collected (a great deal having also been lost) when dry weighed seven drachms; in the last case the fragments and coarse powder weighed ten drachms and three grains; and although there may be some difference of opinion, I am quite disposed to assume that the whole weight of the foreign bodies, when in the bladder, would be almost as much again as when collected and dried afterwards. As to the hardness, the same difficulty was present in both cases—viz., the composition of each being principally lithic acid and lithate of ammonia. The period of formation in the case reported from Guy's Hospital is stated to be four years—in the first of the two cases above reported, the period was seven, and in the last ten years. Key states—"The success of lithotrity, like that of most surgical operations, mainly depends on its subject. If the constitution be good, and the power of endurance great, difficulties of most unpromising nature may be overcome; we should therefore pay more regard to the general condition of the patient, and of his bladder, than to the size of the stone; and inquire minutely into the several circumstances likely to have an influence on the result of the operation. I know of no limit to the size of a calculus removable by lithotrity, but the power of the lithotrite. If a powerful instrument can be brought to embrace it, and the organ be healthy, the operation may, as far as my experience goes, be attempted with propriety."

Civiale states, that "lithotrity, when well performed, and in only appropriate cases, saves from ninety-six to ninety-eight per cent."

Velpeau, originally an opponent to lithotrity, now says, "In simple cases, when the calculi are not too hard, and of moderate size, when the urinary organs are healthy, it is far more successful than lithotomy."

Looking at the quantity of calcareous matter voided after each crushing, the power and efficacy of the lithotrite is well exemplified; at each stroke of the hammer the stone was not only broken into fragments, but also at the same time reduced to a fine and coarse powder. The vibrations given at each blow dislodged them from between its grasp. At the same time, some degree of care was required in completely closing the instrument preparatory to its withdrawal from the bladder. If a succession of hard blows be uninterruptedly given, small fragments, included within its grasp, are reduced to a fine powder, and get immovably fixed in between the teeth of the instrument at its heel, which no blows of the hammer will be able to dislodge. The instrument is thereby liable to be strained or broken. Having succeeded in breaking up a calculus, or large fragment, it is unnecessary completely to close the instrument, as the fragment included within its grasp will probably be broken sufficiently small to pass down the urethra, and in order to extricate the teeth of the lithotrite from any powder which may have become fixed, the male blade must be repeatedly withdrawn a little, and a succession of gentle taps with the hammer will effectually close it, to allow of its removal. The urine having been first taken off, the bladder then injected with a sufficient quantity of tepid water, and instead of pushing about the lithotrite in the bladder, to search for the stone, it is better to depress the curve to the base; having done so, then to open it, and at the same time incline its point a little to either side of the patient, the stone will generally fall within its grasp. Having seized it, it must be gently withdrawn, and slightly moved about to ascertain, before breaking, whether any portion of the bladder be included; but this is hardly possible; if the bladder be included, it is more likely to occur alone, without the stone; and the unmistakable feel, as well as the pain, are sufficient barriers to an accident of this kind. In conclusion, it will be, I think, manifest that although calculi are not only large and hard, they do not always offer obstacles sufficiently great to contra-indicate the successful application of lithotrity.

ON CERTAIN IMPORTANT POINTS IN THE CHEMISTRY & PATHOLOGY OF THE URINE.

By Dr. Hassall.

Continued from May No., p. 420.

OBSERVATIONS ON THE PRINCIPAL TESTS EMPLOYED IN THE DETECTION OF SUGAR IN THE URINE.

The Copper, or Trommer's Test.

The copper-test was originally proposed by Trommer, in an important communication on the distinguishing criteria of gum, dextrine, grape, and cane sugar.

Trommer employs this test in the following manner; he first renders the solutions to be tested alkaline, adds sulphate of copper, and then either applies heat to the mixture, or else sets it aside in the cold for some hours.

"If solution of grape-sugar," says Trommer, "and potash be treated with a solution of sulphate of copper, till the separated hydrate is re-dissolved, a precipitate of red oxide will soon take place, at common temperatures; but it immediately forms if the mixture is heated. A liquid containing the $\frac{1}{100000}$th of grape-sugar—even one-millionth part—gives a perceptible tinge of orange, if the light is permitted to fall upon it."*

Dr. Ure, in his "Recent Improvements in Arts, Manufactures, and Mines," offers some comments upon Trommer's Memoir, and relates the results of further experiments.

"I dissolve," writes that analyst, "a weighed portion of sulphate of copper in a measured quantity of water, and make the solution *faintly* alkaline, as tested with tumeric-paper, by the addition of potash-lye, in the cold; for if the mixture be hot, a portion of the disengaged green hydrate of copper is converted into black oxide. This mixture, being always agitated before applying it, forms the test-liquor."

And further on, in applying the researches of Trommer and himself to diabetic urine, Dr. Ure writes: "This (the urine) should first be boiled briskly, to decompose the urea, and to dissipate its elements in the form of ammonia, as well as to concentrate the saccharine matter, whereby the test becomes more efficacious. Then add to the boiling urine, in a few drops at a time, the cupreous mixture, containing a known quantity of sulphate of copper, till the whole assumes a greenish tint, and continue the heat until the colour becomes bright-orange. Should it remain green, it is a proof that more hydrate of copper has been introduced than has been equivalent to the decomposing power of the starch-sugar. I have found that one grain of sulphate of copper in solution, supersaturated very slightly with potash, is decomposed with the production of orange protoxide, by about three grains of potato-sugar; or more exactly, thirty parts of the said sulphate, in the state of an alkaline hydrate of copper, pass altogether into the state of orange-oxide, by means of 100 parts of granular starch sugar. Thus, for every three grains of sulphate so changed, ten grains of sugar may be estimated to exist in diabetic urine."

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* Annalen der Chemie und Pharmacie, vol. xxxix.

The directions left us by Dr. Prout for the application of Trommer's test are very brief: "A small quantity of a solution of sulphate of copper, just sufficient to tinge the urine blue, is to be added to the suspected urine in a test-tube. *Liquor potassæ* is then to be added in excess, till the urine becomes clear. Apply heat to boiling, when a deposit of red oxide of copper will be precipitated, if sugar be present."

The observations of Dr. Golding Bird on the copper-test are to the following effect:—

"Add to the suspected urine, in a large test-tube, just enough of a solution of sulphate of copper to communicate a faint blue tint. A slight deposit of phosphate of copper generally falls. Liquor potassæ must then be added in great excess; a precipitate of hydrated oxide of copper first falls, which *redissolves in the excess of alkali*, if sugar be present, forming a blue solution, like ammoniuret of copper. On gently heating the mixture to ebullition, a deposit of red suboxide falls, if sugar be present.

"Several objections have been made to this test, on the ground that mere uric acid is sufficient to reduce the copper, and thus introduce a serious source of fallacy. I confess that I have never met with any variety of urine which completely produced the above-described phenomena with the test, unless sugar existed. I believe the solubility of the precipitate first produced by liquor potassæ in an excess of the precipitant, and its depositing a dense red cupreous precipitate by heat, to be quite characteristic of sugar. This dense, red deposit is very different from the light orange-coloured, flocculent clouds, which slowly subside when non-saccharine urine is employed."

Dr. Bence Jones makes the following observations in reference to this test:—

"To a drachm of suspected urine add two or three drops of a saturated solution of sulphate of copper, and then two drachms of caustic potash; the hydrated oxide of copper, which first is precipitated, re-dissolves; if sugar or many other organic substances are present, becoming of an intense blue; and when heat is applied, if grape sugar be present, the oxide of copper is rapidly reduced, and reddish-yellow sub-oxide of copper is precipitated.

"The reduction of the oxide of copper is effected by the carbon of the sugar.

"If cane-sugar instead of grape-sugar be used for this experiment, the rapid reduction of the oxide to the sub-oxide will not take place; the bright blue solution will be formed, but the test must be long continued to effect the reduction; uric acid and albumen will also effect a slow reduction of the oxide of copper. You will from this see that it is the rapidity with which the grape-sugar is decomposed that constitutes the test; and hence it has led, and may lead again, to many mistakes. It is always well to repeat the experiment, if it be an unsuccessful test, with more or less sulphate of copper than was used in the first experiment. If very little sugar is present, too much sulphate of copper hinders the reaction from being clearly seen; if very much sugar is present, the reaction will come out more distinctly by adding more sulphate of copper."

The above quotations contain the chief facts hitherto made known in reference to Trommer's test.

It will be observed that Trommer first makes the solution to be tested alkaline, and that Dr. Ure employs an alkaline test liquid—precautions not adopted, so far as can be gathered from the descriptions, by Drs. Golding Bird and Bence Jones.

I refer to this point particularly, because, as will presently appear, it is one of importance.

My first endeavour was to ascertain the smallest quantity of grape-sugar which can be readily detected in distilled water; for this purpose I experimented with solutions of different strengths, and I found that the 10,000th of a grain of sugar to the ounce of water may be discovered with facility, and certainly by means of the copper test; very much smaller quantities of sugar may even be detected, although not with quite the same readiness, a careful adjustment of the proportions of the alkali and sulphate of copper being necessary; but for all practical purposes it is more than sufficient to carry the test to the extent of the 10,000th of a grain.

The copper test is therefore evidently one of great nicety and power.

The next point to determine was, whether small quantities of sugar may be discovered in urine with ease and certainty.

Two grains of grape-sugar were added to separate ounces of forty-two different urines; in twenty cases only was the test applied in the ordinary manner successful to any extent, and in the remaining twenty-two cases it utterly failed.

We have thus arrived at the fact, as important as unexpected, that sugar may exist in considerable quantities in urine, and yet escape detection by the copper test.

In the twenty-two urines in which the test failed, no copious precipitate appeared, but that part of the urine in the test-tube nearest the flame of the spirit-lamp gradually changed colour, and became deep brown, like indeed the saccharine urine acted upon by potash, a few yellowish and frothy flocculi at the same time making their appearance near the surface of the liquid; while in but few of those urines in which the test answered at all was it completely successful; the precipitate seldom presented the orange-red colour characteristic of the red oxide of copper, but was generally of a dull and dirty yellowish-green, sufficiently characteristic indeed to one practically acquainted with the copper test as applied to the urine, but calculated to puzzle somewhat the novice in its use.

In order to ascertain therefore the cause of failure, I experimented with all the known and ordinary constituents of the urine capable of being separably obtained and exhibited.

And first with urea. From a solution containing one grain of pure urea and the eighth of a grain of diabetic sugar to the drachm of water, the red oxide on the application of heat was thrown down, presenting the same characters as those observed in distilled water.

It is therefore evident that urea, as such, does not interfere with the action of this test.

But urea is convertible into carbonate of ammonia. I therefore next tried a solution containing half a grain of that salt, and the eighth of a grain of sugar to the drachm of water; the precipitate which was thrown down in this case was of a light reddish-brown colour, probably a mixture of the black and red oxides of copper; with the same quantity of the carbonate and half the sugar the precipitate was still darker.

Now it was stated by some that the simple act of boiling is sufficient to convert urea into carbonate of ammonia, and if so, the quantity of urea contained in the urine being considerable, it is possible that in some cases the conversion of this may occasion the failure of the test.

It becomes, then, of importance, to ascertain as far as possible what the circumstances are under which this transformation of urea into carbonate of ammonia takes place.

On this point Dr. Golding Bird thus expresses himself:—

"The mere act of boiling the urine is sufficient to convert a portion of urea into ammoniacal salt, and by long keeping, even in closed vessels, a similar change occurs. The rapidity with which this conversion is effected, varies remarkably with different specimens of urine. I have known urine become alkaline within an hour of its emission, and yet, in one instance I detected urea in a specimen of urine which had been preserved in a closely-stoppered bottle upwards of ten years. The presence of a mucoid body in a state of change acting as a ferment, certainly explains the rapid conversion of urea into carbonate of ammonia in some urine.

More recently Dr. Bence Jones has the following observations on the decomposition of urea:—"Pure urea may be kept dissolved in distilled water, or it may, as you see in this test-tube, even be boiled without being changed into carbonate of ammonia; but if a few drops of ammoniacal urine or a small quantity of mucus is added, decomposition begins."

With the view of ascertaining more exactly the conditions which determine the change of urea into carbonate of ammonia, I instituted the following observations and experiments:—

1*st Experiment.*—Two grains of pure urea were dissolved in a drachm of distilled water, and placed in a test-tube furnished with a lip or spout; over this was loosely fixed a smaller and much shorter tube, in which was deposited a strip of reddened litmus-paper, moistened. The solution being boiled, after the lapse of a minute or two the litmus-paper became tinted of a blue colour, the depth of which was much increased by continuing the boiling for a further equally short period.

This experiment was repeated, with another specimen of urea procured from a different source; the result was similar.

2*nd Experiment.*—A like solution of urea, to which one drop of liquor potassæ was added, was boiled for a minute or two in an apparatus similar to that described in the first experiment; on the application of heat, the blue of the litmus paper was restored in a shorter time than in the previous case, and the colour was more decided.

3*rd Experiment.*—Two grains of urea were dissolved in a drachm of lime-water, and heat applied as before; in this case the litmus-paper changed colour very rapidly, and became of a deep blue.

4*th Experiment.*—In this, phosphate of lime was substituted for the lime-water. The change of colour was less rapid and decided.

5*th Experiment.*—A solution of urea, of the same strength as in the previous experiments, was rendered acid by means of one drop of phosphoric acid, and heat employed as before; not the slightest change in the colour of the litmus-paper ensued.

This experiment was varied by substituting for the phosphoric acid, the acetic and the nitric acids.

6*th Experiment.*—Three recent and acid urines were boiled successively in the apparatus above described; no change in the colour of the litmus-paper occurred.

7*th Experiment.*—Four neutral or slightly acid urines were next subjected to the action of heat, in each instance the test-paper became gradually and slowly discoloured.

8*th Experiment.*—In this experiment three recent and alkaline urines were employed; the litmus-paper with each quickly underwent a marked change of colour.

In the next experiment the aid of the spirit-lamp was dispensed with.

9*th Experiment.*—About two drachms of three stale and alkaline urines were separately placed in test-tubes, over which the moistened litmus was placed as before; in a few minutes the paper began to change colour, and in the course of an hour or so it became deep blue.

10*th Experiment.*—Two separate drachms of distilled water, each containing two grains of urea, were placed in two different bottles, the one being stoppered, and the other left open to the air; immersed in the fluid of each bottle was a piece of reddened litmus-paper, a similar piece being also suspended in the bottles above the liquid. Although these bottles, as well as those employed in the experiments to be described hereafter, were placed in a room without a fire, and during cold weather, yet, in the course of four days, the paper wetted by the solutions in each case began to be tinged blue; and after a few more days, the original blue of the litmus-paper was restored, and at an earlier period in the stoppered than in the open bottle. Of the strips of paper suspended in the bottles, that exposed to the air underwent but a slight change in colour; whereas that in the closed bottle was affected to a much greater extent. This experiment was repeated with a second sample of urea; the result was the same.

11*th Experiment.*—Similar solutions of urea were rendered alkaline by liquor potassæ; in these, of course, no litmus-paper could be immersed; it was suspended, therefore, in the bottles; as in the previous case, for the three weeks during which the experiments were watched, the change in the colour of the litmus-paper was but slight. This experiment was repeated with lime-water, with which the result was more decided.

12*th Experiment.*—Two similar solutions of urea, rendered acid, were placed in separate bottles, the one closed and the other open, the litmus-paper being disposed as in the tenth experiment. At the end of a month, not the slightest change had taken place in the colour of the test-paper in either bottle.

13*th Experiment.*—Two solutions of white of egg in distilled water were placed in separate bottles, the one closed, the other open to the air, reddened litmus-paper being immersed in each. At the expiration of a few hours, the paper began to change colour, and in two or three days it became quite blue. Part of the effect in the experiment is to be ascribed to the albumen employed, as this usually exhibits a slight alkaline reaction.

14*th Experiment.*—Two solutions of urea, to which some epithelium of the bladder, previously well washed in distilled water, was added, were placed in bottles, the one stoppered, the other open; at the end of the second day, the paper immersed in each had assumed a blue tint, and in the course of a few days the original colour was completely restored.

HUNTERIAN MUSEUM.—The Council of the Royal College of Surgeons have sent letters to all the foreign ambassadors and consuls-general, enclosing cards of admission to the museum, which they are invited to present to their respective countrymen who may visit London during the Exhibition.

OBSERVATIONS ON THE TREATMENT OF SOME INTRACTABLE DISEASES OF THE SKIN, AS PURSUED IN THE PARISIAN HOSPITALS.

By James W. Begbie, M.D., Edin.

President of the Parisian Medical Society.

The success I have witnessed in the treatment of several intractable disorders of the skin in the Hospital of St. Louis, and chiefly in the service of M. Devergié, leads me to offer the few following observations, in the hope of directing attention to the employment of certain remedies, admirably adapted, as the success I have observed proves, in the treatment of such cases.

1. *Eczema Impétigineux: its Treatment.*—The association of eczema and impetigo gives rise to a very common and to a very obstinate form of disease. This complex disorder represents, in its earliest appearance, the characteristic features of the primitive eruptions of which it is composed—a greater or less number of pustules, such as those which occur in impetigo vulgaris, being mingled with the vesicles of eczema. At that, the early stage of the disease, the differential diagnosis between the compound eruption and either of those primitive forms of which it is composed, is easy. At a later period we possess another distinguishing feature in the formation of dense crusts after the rupture of the pustules, showing that the exudation which had originally taken place was more than pure serum—the characteristic of simple eczema. This is the affection which Bateman makes his second head of eczema, and calls E. impetiginodes. All, I apprehend, will be ready to acknowledge the frequent and great difficulty experienced in effecting a cure in this affection, which too often merits the appellation of inveterate. The plan of treatment I have seen adopted by M. Devergié in the treatment of this disease is not less simple than efficacious; it consists in the application to the affected part of the oil of cade. This oil of cade is a pyrogenic oil, prepared by the distillation of the trunk and larger branches of the old juniper. The oil itself has a rather pleasant pungent odour, a dark brown colour, and somewhat thick consistence. M. Devergié thus employs it: he paints it over the diseased skin with a brush, and then, with a dry, but soft brush, rubs it in. Its application he repeats every three or four days, but not every day, as some recommend. The latter M. Devergié regards as a bad practice sufficient to account for failures in cure by the oil. This constitutes in most cases the entire treatment; for while, in all cases, the regulation of the bowels and the employment of a light and non-stimulating diet are enjoined, in few is any internal remedy of importance administered. The oil of cade is much used in Paris as an external medication in skin diseases, chiefly in vesicular and papular eruptions; the case of eczema impétigineux, however, M. Devergié regards as the one, *par excellence*, for its employment. The measure of success I have seen to follow cases so treated, certainly entitles the remedy to the high character M. Devergié has assigned it. I have seen a large number of cases so treated; the employment of the remedy, in most, has extended over a period of weeks, but in all, without exception, the results obtained have been most satisfactory. Lately a cure was effected by the employment of the oil of cade in a case of eczema impétigineux, in which the crusts assumed the nummular form; hence called by M. Devergié, E. I. nummulaires—a form of the disease hitherto undescribed by authors, and most difficult to cure. I have noticed, in regard to the action of the oil in the case of eczema impétigineux, that it is the pustular development which is first arrested and overcome, in many instances, the case being reduced from a complex eruption of pustules and vesicles to a simply vesicular one before a cure took place. This would tend to prove, that in simple impetigo and in ecthyma the oil of cade may prove a useful remedy; in these cases I have not as yet had proof of its efficiency.

(*To be continued.*)

ON A

CASE OF EPIPLOCELE, AND THE OPERATION OF FEAR IN THE REDUCTION OF HERNIA.

By R. O. Gorham, Esq., M.R.C.S., &c., Aldeburgh, Suffolk.

Having been requested lately to accompany a friend to visit J. M——, of Iken, near Oxford, to meet Mr. Randall, of the latter place, and to consult as to the propriety of an operation in a case of strangulated inguinal hernia then under his charge, we did so, and found a patient with a large entero-epiplocele of the right side, which had been down for thirty hours, and had frequently come down after hard work, particularly mowing, but it returned on resuming the horizontal position with gentle pressure. Excepting this time, when no means of his own produced any effect, and having been taken at his club-dinner, a short time after sitting down to the same, having crawled into an outhouse, and remained there all night, before assistance was given him and medical advice received, placed him in a very dangerous state when Mr. Randall first saw him. On our arrival, we found the tumour very large and hard, the scrotum very tense, and the abdomen extremely tender. No attempt had been made to reduce the hernia by Mr. Randall ere this, on account of these symptoms, fearing to aggravate the man's sufferings by so doing.

At the upper part, both anteriorly and posteriorly, there was a feeling of softness, arising from a portion of intestine having protruded into the neck of the sac, and become doubled upon itself like the letter S. Bleeding, the taxis, and the application of cold water from a large watering-pot, and from a height, having been employed for some time, with the body bent, and the legs placed some distance above the head, without the slightest effect, led us to form an opinion as to the necessity of performing the operation for the removal of the stricture.

Mr. Randall was therefore requested to make known to the man our opinion; and on returning to the room, when the man's attention was directed to Mr. Randall, I thought it better to try once more the taxis. The attention being diverted as above, the *fear* of being operated upon, and the cold being applied as before, the tumour made a peculiar gurgling sound, (which once heard is never forgotten,) the hernia was reduced, and the poor fellow saved the danger of an operation.

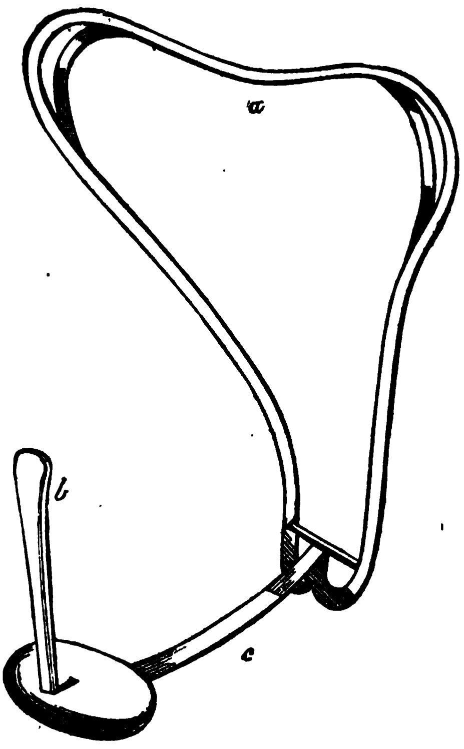
The impression upon the minds of Mr. Randall, myself, and Mr. Bell, was, that *fear* was the essential in reducing the hernia, although the above untiring means were also employed.

Would it not be justifiable in other cases to try the effect of the same agent—viz., fear, before proceeding to operate in other cases.

A DESCRIPTION AND DELINEATION OF AN IMPALING UTERINE MACHINE.

By Robert Lee, M.D., F.R.S.

A young woman some time after her marriage, began to suffer much from pain in the back and lower part of the abdomen with leucorrhœa; she consulted a practitioner, who ordered lotions, which she used for five months without any benefit. She then consulted another practitioner, who examined her with the speculum, and told her that she had inflammation and ulceration of the neck of the womb. Every week for six months the speculum was introduced and caustic rubbed on the part said to be ulcerated. For a short time she thought some benefit was derived from this treatment, but all the symptoms returned, and with still greater severity, though assured that the ulcer was completely cured. The patient went and consulted another practitioner at a public institution (for her pecuniary resources were now exhausted,) and was informed that her womb had never been ulcerated; that her disease had been wholly mistaken, and maltreated, and that her real complaint was retroversion of the womb. She was placed in the horizontal position, and an instrument forced into the vagina, which produced most excruciating pain; her sufferings having become unbearable, at the end of a week the instrument was removed. A month after, it was re-introduced, and with like effects, but though the pain produced by it was intense, she lay upon her back and wore the instrument six weeks, when it was finally withdrawn, and she was too happy to escape with her life out of the hands of this cruel performer. The weapon employed on this occasion, has been inspected by the most learned physician in London, and he thinks it ought to be designated "*The Impaling Uterine Machine.*" It is decidedly a modification of the strange rusty ring and prong, about which such a variety of opinions have been expressed, and which has since been generally called the "infernal uterine machine." Subjoined is a delineation of the *Impaling Uterine Machine.*"



a. The external frame to be laid over the symphysis pubis.
b. Rod or prong for impaling the uterus.
c. Vaginal or telescopic rod, which slides backward and forward like a telescope, and is substituted for the oval ring and hidden spring in the infernal uterine machine alluded to.

ON A SUCCESSFUL CASE OF TRANSFUSION.

By G. Bellasis Masfen, Esq.,

House-Surgeon to the Staffordshire Infirmary.

On the 30th of July, 1848, at one P.M., I was called in to attend Mrs. B——, a lady of particularly delicate appearance, in her thirty-eighth year. It appears that on the evening of the 29th she had perceived some slight sanguineous discharge from the vagina, and had consulted my father, to whom she described herself as being four months advanced in her tenth pregnancy, but thought that the child had not grown for the last month or two. He ordered a mixture containing diluted sulphuric acid with Battley's sedative; but the discharge continued to increase until about seven o'clock this morning, when it became quite alarming. Plugging and injections of oak-bark were tried, but with no effect, and a dose of ergot was administered, which produced a severe pain, and the expulsion of a two-months' fœtus; but the hæmorrhage continued to increase till one P.M., when [illegible]st saw her.

I found her excessively weak, from loss of blood; not the slightest pulse was to be felt at the wrist; and she became at last insensible. The stomach rejected everything, and though the hæmorrhage had in a great measure stopped, there was every symptom of sinking and speedy dissolution.

About three o'clock, it being the opinion of every one present that it was the only possible means of saving her life, the operation of transfusion was decided upon, which I performed in the presence of Dr. Knight and my father. I immersed a four-ounce brass syringe in water at the temperature of 110° Fahr., and drew a full stream of blood into it from the arm of a stout buxom-looking servant-maid. This I injected into a vein on the left arm, taking every precaution to prevent the admission of any air-bubbles. As the operation was going on, consciousness appeared to be somewhat roused, and the pulse became slightly perceptible at the other arm, but in the course of half an hour the pulse had again disappeared, and she remained still unconscious. I then a second time injected three ounces of blood into the right arm, (the veins were so small and empty that there was difficulty in finding the same opening twice;) this was again attended with a return of pulse and sensibility, which, however, gradually disappeared as before. After an interval of nearly an hour, I injected a third three ounces of blood, which produced more permanent good effects; the pulse gradually rose as the injection went on, colour made its appearance in her face, and she inquired if we had been bleeding her. During the evening she complained much of thirst, and she had occasionally a teaspoonful of wine-and-water.—Eight P.M.: The pulse was slightly perceptible, but was not to be counted; she attempted to take a cup of tea, but it was immediately rejected, as was also even a teaspoonful of water, and she remained all night awake and thirsty, but afraid to drink even a little water.

31st.—Six A.M.: the pulse was 150, and very much increased in strength; the tongue dark-brown, hard, and dry. Ordered three drops of creosote in form of a pill. She vomited almost immediately after taking it, but did not throw up the pill, which from that time appeared to allay the sickness. She then took a tablespoonful of brandy-mixture every hour. In the evening she still complained of thirst, and was ordered the following mixture;—Sesquicarbonate of soda, two and a half drachms; sesquicarbonate of ammonia, half a drachm; compound tincture of cardamoms, two drachms; oil of lemon, six drops; distilled-water to six ounces.—Two table-spoonfuls to be taken every three or four hours in a state of effervescence, with twelve grains of citric acid. There was a great extravasation of blood for six or eight inches above and below the elbow in both arms, probably the effect of the injection. Ordered warm-water dressing.

August 1st & 2nd.—She continued gradually improving in appearance; her pulse was slower, and she was better able to take slight nourishment. The arms were becoming more ecchymosed, and she complained of great pain in them. The warm-water dressing was continued.

3rd.—Her health is gradually improving, and she is taking no medicine; complains of great pain in the right arm, which was much inflamed, and very hard just below the elbow, and seemed likely to suppurate. Ordered castor-oil and the water-dressing.

4th.—The arms rather better; the swelling abated.

5th.—Continues to improve, both in health and as regards her arms. Ordered tincture of sesquichloride of iron, one drachm; infusion of quassia and camphor mixture, of each three ounces; to take two tablespoonfuls three times a day.

14th.—The arms have been gradually improving, and the discoloration is nearly gone, but they remain very weak, and she is not able to write.

28th.—She has now quite recovered the use of her arms, and is in general good health. From this time I discontinued attendance.

In June, 1849, she miscarried again, but otherwise she has remained perfectly well up to the present time.

ON A CASE OF HYDATID DISEASE OF THE KIDNEYS.

By E. Fussell, Esq., M.R.C.S. & L.S.A., Chislehurst.

On the 15th of last month I was called to W. K., a retired tradesman, aged fifty-eight. Two days previous to the above, (the 13th,) as he was passing his urine he observed that it was the colour of blood, though the stream was quite free. He had been very sick the preceding evening. The bloody colour gradually disappeared, but the sickness continued. I found him on the sofa, extremely anxious about his urine. Pulse quiet; skin cool, bowels open; tongue furred, but moist; continual and sudden vomiting, when not in the recumbent position; matter vomited consisted of the solids and fluids which he had swallowed; no pain in head; no pain nor tenderness in the loins; urine turbid, a small quantity of blood seemed to be mixed up with it, loaded with albumen; he made an average quantity. I prescribed calomel and antimonial powder with an effervescing dose occasionally; to keep very quiet.

I saw him every day till the 30th. The urine gradually improved, but the sickness continued in spite of effervescing mixtures of carbonates and bicarbonates, hydrocyanic acid, soda water, &c.; Appetite was bad; bread soaked in water or milk was the only food which remained on his stomach. In other respects he was apparently well. Being a penurious man, and not regarding the sickness, he wished my attendance to cease, as he thought the vomiting would gradually subside.

On the 3rd of this month I was again sent for. The vomiting had become more troublesome; he had kept his bed the day before; still the sickness continued. Tongue dry and furred; pulse quiet; no pain in loins or head; perfectly sensible; urine clear, and he made a fair quantity. I again prescribed hydrocyanic acid, a blister to the epigastrium, and a sleeping draught before going to bed. He fancied he was better, as he had had some sleep; he still vomited, though it was not quite so frequent. Being apprehensive of the result, I requested Mr. Morgan of Bromley to see him—he recommended the trial of creosote, soda water, and milk, equal parts; but they were of no avail, the sickness continuing until his death, which took place on the 7th.

He had been subject to sickness for some years, at intervals of four, five, or six months; on one occasion it lasted a fortnight; I attended him twice within the last ten months, and I concluded the sickness arose from dyspepsia. The tongue was always furred, and the breath very foul. Blue pill and colocynth, with a bitter infusion, always gave him relief. His countenance was always pallid.

Post-mortem Examination.—Body emaciated; abdomen, stomach, and bladder quite healthy, about three-quarters of a pint of urine in the latter. The kidneys were very large; one weighed one pound four ounces and a half, the other one pound and half an ounce. The surfaces of both were covered with hydatid cysts. On making a section of them, very little of the natural structure remained, the substance being made up of the cysts. The fluid which escaped was dark, and had no urinous smell. Thorax and head not examined.

We should imagine that the patient would have suffered from head symptoms, but he was perfectly sensible till the last; he never even complained of any pain in the head or in the loins, though asked repeatedly. During the last week of his life the urine was quite clear, and he made a fair quantity. The violent sickness arose, I conclude, from the state of the blood. An examination of the salts of the urine would have been very interesting in this case.

ON FOREIGN BODIES IN THE ŒSOPHAGUS.

By Richard Gorst, Esq., M.R.C.S., Rock Ferry.

On the evening of Tuesday, the 26th of August, I was summoned in great haste to attend a servant girl, who had, whilst engaged in placing clothes on a line, allowed, as she imagined, a pin to enter the œsophagus, giving rise to great pain, particularly at the time of swallowing.

It appears that the girl was in the act of placing clothes on a line, and that before doing so she had procured from her mistress a quantity of pins, which she at once placed in her mouth, intending to remove them as required. The night being very stormy, and the clothes-line high, she had not used more than four pins, when she felt one fall into her throat, and at once she spit the remainder out on the grass, believing these to be all, except the one in her throat.

The examination I made of her throat, to ascertain if possible the exact position of the foreign body, excited rather violent vomiting, and with the ejected matters were discharged two pins of large size, the removal of which very much increased the pain at the time, causing a sensation of tearing, which, however, soon subsided. At night she had two grains of Dover's powder, but did not sleep.

On the following morning (27th) she complained of great pain in the throat, particularly in swallowing, and also on pressure on either side of the trachea; during the day she had a severe rigor, followed by quick pulse, pain in the head, and great thirst; by night, the pain in the throat had greatly increased, also the difficulty of swallowing; to use her own expression, there was constant linking in the throat.

Aug. 28th.—Had not slept during the night, owing to the pain and difficulty in swallowing; the pulse 110; breath very offensive; great tenderness on pressure; neck much swollen, and occasionally spasm of the sterno-mastoid, causing very great pain; she still complains of the linking; by night, the symptoms generally had become more aggravated, and it was obvious that matter had formed; to relieve the spasms of the muscles of the throat I prescribed the local application of laudanum, over which was placed a warm poultice.

29th.—Shortly before my visit the abscess had burst, and discharged a quantity of fœtid matter, with which was a third pin. This produced some relief, but not the marked abatement of symptoms that was expected; the breath continued very offensive, and the pain in swallowing very great; the spasms also continued; and by evening her condition was similar to that of the previous day.

Soon after daylight on the Saturday morning, a second abscess discharged the same offensive matter as yesterday, and with it was ejected a fourth pin. This gave great relief, and by night there was a manifest improvement of all the symptoms; she could now take arrow-root with little inconvenience or pain, expressed herself as much better, and the swelling and tenderness in the throat had greatly subsided. At intervals during the day she had hawked up purulent matter mixed or streaked with blood. On the following morning, (Sunday,) when preparing to take some simple form of food, she fancied she could feel a foreign body in her œsophagus; and after hawking and coughing for some time, she succeeded in bringing up two pins, without occasioning the least pain. (I may here remark, that when these last pins were ejected, the daughter of the person with whom she resided was present.) On the Tuesday the pain increased considerably; and on Wednesday evening a third abscess discharged, the matter mixed with blood, very offensive, and with it were two other pins. No other abscess formed.

From this date to Sept. 7th she continued to eject from her throat, at intervals, pins, eight in number, making a total of sixteen. It was not until Sept. 5th that I directed any search to be made in the evacuations from the bowels, to ascertain if any of the foreign bodies had made their transit. I then arranged that the evacuations should be carefully examined daily, to be conducted without the patient's knowledge. Aperient medicine was administered in a mild form, and for two days the motions were quite free, but subsequently to this, for several days successively, pins were found in almost every evacuation, and numbered in all eleven, which were passed without producing any pain, and quite unknown to the girl.

The case offers several particulars of interest, and I believe it is the only one recorded where so great a number of pins have beeen lodged in the human frame at one time. The succession of abscesses that formed and discharged, together with the pins found in the evacuations, must overthrow all suspicion of the case being one of feigned disease, particularly as the examination of the matters passed from the bowels was conducted entirely unknown to the girl. She is twenty-four years of age, has always been a valued servant, and in no instance, so far as I can trace, has she showed any symptoms of hysteria. Her health suffered very much for a time, but she is now quite well.

REPORT OF A

REMARKABLE CASE OF AGGLUTINATED OS UTERI.

OPERATION, AND SUCCESSFUL TERMINATION OF LABOUR.

By James Sheppard, M.D., M.R.C.S.E., Stonehouse.

Believing the accompanying case to be unique in its successful termination, if not in its character, I am induced to transfer it from my notes to the valuable columns of The Lancet. I have in vain searched for a parallel case in the records of midwifery to which I have access, and therefore trust it may not be without interest to readers:—less as a guide in practice,—for it is probable that few practitioners will see a similar case,—than for its value in showing to what extent the uterus may be injured, without death, or, indeed, without any manifest disturbance of the system.

In this case, probably, there was as great an injury inflicted on the pregnant uterus, as that organ ever sustained during the life of the patient, not excepting the Cæsarian operation, and yet the uterus continued to perform its functions, and on the third day we find parent and child as well as though no formidable operation had been found necessary by the surgeon.

About eight o'clock in the morning, I was called to A.B., about thirty years of age, healthy, but thin, and of a scrofulous diathesis. She was in labour with her first child, and had been so since three in the morning. Her pains were sufficiently strong to make her "bear down," and they came on at regular intervals. She stated she had arrived at the full period of gestation. On examination during a pain, I found the uterus descending fairly on the brim of the pelvis: the vaginal walls were firm and undilated, so that I could not with ease introduce a second finger. On passing my finger over the uterus, I was surprised that I could not find the os uteri. Continuing my examination, I passed my finger over the posterior wall of the uterus, as high as possible, but the only information I gained was, that the uterine walls were thick and hard. I was now convinced that I had a case of occluded uterus, and I accordingly found, about an inch posterior to the centre of the descending segment of the uterine globe, a puckered fossa, with hard and slightly elevated edges. The bulb of the finger sank into this fossa, which was closed by what appeared to be the smooth uterine surface. There was no neck to be felt, excepting this puckered fossa could be so called, the sides of which were hard and unyielding, resembling in touch the rest of the presenting portion of the uterus. It was evident that the os uteri had become agglutinated by inflammatory, or other morbid action after impregnation, and that the morbid process had involved the lower portion of the uterus, so that it had lost its soft, yielding, cushiony feeling.

The only effect of the pains, which came on regularly, was to cause the uterine globe to descend on the upper brim—and I remarked, that during the pains, the fossa was filled upwards and backwards. The presenting portion of the child could not be detected.

Under these circumstances, I sought a consultation, and the assistance of my friends Messrs. Isbell and Whipple. These gentlemen agreed with me in the opinion I had formed, and we determined on waiting to watch the progress of the case, and to direct our future proceedings by circumstances, as they might exist or arise. During Mr. Whipple's examination he had with some force, succeeded in breaking down the intervening false membrane between the sides of the neck and os uteri—but he could only introduce the very tip of his finger into the uterus. So firm and contracted was the os uteri, that with no effort which it was safe to make could he pass his finger into the uterine cavity: indeed, when he withdrew it, an indentation was made around the tip of it, such as would result from the pressure of the open end of a pencil-case.

On examination after this, I found the neck developed, but of an abnormal character, resembling more an appendix to the uterus than its normal neck. It had been contracted and puckered down by the morbid action, and now admitted the finger with difficulty. The sides of the neck were hard and unyielding, and it was surrounded at its outlet with a dense and fibrous ring. The os uteri was hard and firm,—so firm, indeed, as to present a semi-cartilaginous character, which, as before stated, could not be made to dilate, even to admit the finger. The walls of the uterus appeared to be, in the neighbourhood of its os, nearly half an inch in thickness.

The destruction of the false membrane having demonstrated the true character of the case, it was now determined to open the unyielding neck and to await the result, although neither of us entertained any very sanguine hopes that any efforts of Nature could dilate the apparently inexpansive uterine structure.

To operate on the neck, I introduced the index finger of the left hand to the posterior wall; then carrying on the same finger of the right hand, with the blade of my penknife I pierced it from within outwards, and drawing down the hand, divided the intervening substance, though this required the use of considerable force, so hard and dense was the tissue. I then divided the anterior wall of the neck in the same manner. This being done, we awaited the result.

It was obvious that in this case it would have been worse than useless to have attempted, by reducing our patient's system, to produce the requisite amount of dilatation. If the uterus had possessed its soft, yielding, normal condition, or if the contracted portion had presented even the feeling we are accustomed to, where contraction has followed injury to the vagina in a previous labour, we might perhaps have been induced to try the effect of warm baths, or bleeding, or other reducing remedies; but in a case of this character, where the uterus was very hard, very thick, and in the immediate neighbourhood of the os uteri semi-cartilaginous, it was clearly and beyond dispute the duty of the surgeon to protect and to support, rather than to lower, so that the patient might be the better able to go through that which we inevitably saw was before her. At the same time, we deemed it advisable to wait to see if it were possible for Nature to aid herself in this dilemma, because if she commenced or showed the slightest power to aid herself, we then might have stepped in to her assistance with the class of remedies referred to.

Finding, about four in the afternoon, that my patient remained precisely in the same condition, that her pains, though regular, and becoming gradually more powerful, had not produced the slightest dilatation, I again sought the assistance of my friends. We met about half-past six, and determined, after obtaining the sanction of the patient's friends, to divide the lower segment of the uterus freely, by a crucial incision, making the os uteri the centre of the operation. The uterus at this time was high up, and descended with the pains but little into the upper opening of the pelvis. The os externum was still undilated, and the sides of the vagina were only slightly relaxed. As the os uteri was tilted high up, we considered it advisable to divide the posterior portion, in the first instance; then as speedily as practicable to divide the remaining portion. We thought that if we divided first anteriorly we might find it difficult to operate at all on the posterior part; and we considered that by the plan we proposed—viz., a crucial incision—we were the more likely to prevent irregular splitting of the uterus, and to secure, as far as possible, some regularity in the uterine contractions. I introduced the index-finger of the left hand as high as possible against the posterior wall of the uterus; and then endeavoured, with the right hand, to pass a scalpel, guarded at its point, into the uterus, intending to cut from within outwards. In this attempt I failed, as did also one of my friends. We found that we could with difficulty reach that portion of the uterus we wished to divide; and when we had done so, the os externum was so engaged by the left hand, that it was utterly impossible to introduce any portion of the right hand, so as to guard the knife, or even to manipulate to the extent desired.

Finding this to be the case, I withdrew my finger from the posterior wall of the uterus, and only retained it in the vagina to protect the rectum. Guarding my knife with the index-finger of the right hand, I introduced the scalpel into the uterus, and cut backwards. This part of the operation I performed with great anxiety, because, not having my finger on the outside of the uterus, or near its cavity, I feared lest I might wound the vagina, or neighbouring organs. However, I fortunately succeeded, and divided the posterior wall for about two inches. I then proceeded to operate anteriorly, and divided that portion of the uterus which appeared most to obstruct; for after the division posteriorly, the tension of the uterus was relieved, and it appeared it would not be necessary to divide any portion laterally. To divide the anterior portion, I introduced the finger of my left hand into the uterine cavity, and then passing the scalpel carefully to the external part of the anterior lip, I plunged the knife through until with my left finger I felt its point. I then cut down on my finger until the whole of the structure was divided. Subsequently it was desirable to divide another portion of the uterus, to accomplish which the catheter was introduced so that the urethra might be avoided, and the operation was performed in the same way as that last mentioned.

We now waited about three hours without any progress being perceived. The head advanced but little into the pelvis, though the pains continued regular and severe. Soon after the division of the posterior part, the uterus split directly upwards posteriorly, as high, I believe, as its attachment with the vagina, which limited the injury. But although the uterus might now be considered fully dilated, no progress in the descent of the child was perceived. We administered two doses of ergot, but without success.

It was now thought desirable to hasten the delivery. I introduced my hand with the intention of turning. This was impossible; the uterus was firmly contracted around the shoulders of the child, and after considerable exertion I relinquished the attempt. While introducing my hand, I felt the uterus tear in more than one place, and I acknowledge that at that moment, I had not much hopes of my patient's recovery.

While my hand was in the uterus, I endeavored, with the aid of one of the blades of the forceps, to bring down the head, and I think I succeeded so far as to fix it in the brim of the pelvis. Shortly after this Mr. Whipple made a successful attempt to fix the forceps, and after the lapse of about a quarter of an hour, and after the exertion of traction as powerful as I ever saw employed, (if not more so,) the child was born, and immediately exerted to the utmost his muscles of respiration! I was also gratified to find that he was not injured by the scalpel.

As the placenta did not follow, I was again obliged to introduce my hand into the uterus, and effected its delivery after breaking down some adherent portion.

The uterus presented a most extraordinary, and I may say frightful appearance: it had split very much in different directions; in every part the further splitting had been limited by the vaginal attachment. It did not appear to have any circular rupture. A portion of the uterus, anteriorly, about the size of a large hand, was felt rather low down in the vagina, without any corresponding posterior portion to complete the circle. This portion presented the same hard and contracted appearance as is felt after labour, when the uterus is contracted. The probable reason why the child did not descend appears to be, that the lower portion of the uterus, if its fibres contracted at all with force on the child, did not so contract as materially to aid in the process of parturition. While my hand was introduced, I discovered that the vaginal walls were not injured by the knife. No fever, no tenderness of the abdomen, no inflammation, followed the delivery. "The discharge" was natural and healthy, no appearance of pus was detected, and the patient voided her urine and fæces without difficulty.

On the third day I found her sitting up in bed with her child in her arms; and in the usual time she was performing her domestic duties. Excepting a dose of laudanum after her labour, and one of castor oil subsequently, I do not think she took a single dose of medicine, nor did she require any. Both mother and child did well, and continue to enjoy good health.

OBSERVATIONS ON CHLOROFORM AND ITS ADMINISTRATION.

By W. Martin Coates, M.R.C.S., & L.S.A.

Surgeon to the Salisbury Infirmary.

That chloroform is a poison of great energy, nobody who has read the account of Mr. Thomas Wakley's interesting and valuable experiments can for a moment doubt. That there have occurred poisonings by this agent, administered with a view to produce insensibility to the pain of surgical operations, is equally certain. The dread of such a fearful result has, I know, prevented many patients from taking advantage of the inestimable boon conferred by Dr. Simpson on mankind, by his discovery, and some surgeons from employing it. I own that I never witnessed the suddenly suffused countenance, the foaming mouth, the injected conjunctivæ, the dilated pupil, the convulsive movements of the extremities, the stertorous breathing, and, at a subsequent stage, the pallid face, the slow, laboured respiration, and the very feeble pulse of the patient under the ordinary dose inhaled, without a dread of a suddenly fatal result, and a conviction that chloroform, to be safely administered, must be inhaled in much smaller doses.

A few experiments performed on frogs by myself and my friend, Mr. Henry Smith, late of Torrington-square, the gentleman to whose intelligence and unwearied industry, Dr. Marshall Hall has, in several of his admirable publications, paid so high and just a tribute, confirmed me in my view, and pointed out from what quarter the danger was to be expected.

The first, second, and third experiments were first performed by Dr. Marshall Hall and Mr. Henry Smith.

First Experiment.—A frog was placed under an ordinary tumbler, to the inside of which was attached, by gum, a piece of lint, and three minims of chloroform were dropped on the lint. At first, the animal made efforts to escape, then gradually ceased to respire; the eyeballs receded, and its head fell on the plate. It was removed from the tumbler, and placed on its back, from which position it did not attempt to move. Its heart beat vigorously. The reflex functions were perfect, as evidenced by the retraction of the extremities on their being pinched. This animal, on being washed with cold water, quickly recovered, and now, on being placed on its back, turned on its belly, and leaped, showing that sensation and volition were restored.

Second Experiment.—A frog was placed by the same method under the influence of three minims of chloroform, and was allowed to remain a longer time. When taken out the heart beat feebly, and the reflex actions were barely excitable. This animal recovered after a much longer lapse of time.

Third Experiment.—A frog was placed under a tumbler, and five minims of chloroform were dropped on the lint. At the end of three minutes, when taken out its heart had ceased to beat, and the reflex functions were inexcitable. The animal was dead. From these experiments it is evident that the chloroform affected the different divisions of the nervous system, in the following order:—1st. The cerebral, producing insensibility and loss of volition. 2ndly. The true spinal, as shown by the cessation of respiratory effort, and the difficulty of exciting reflex action. Lastly. The ganglionic or organic, and, consequently, the cessation of the heart's action, and death.

It is of course known to the reader, that, as regards chloroform, the frog has a great advantage over man in its property of breathing by its skin after visible respiration has ceased: whereas, in man, if respiration by the lungs cease for a minute, danger becomes imminent.

These experiments enabled me to follow the effects of chloroform in man. First, we have generally efforts to remove the instruments; secondly, loss of voluntary motion and sensation, after a short interval of cerebral excitement; thirdly, accelerated, and then, slow stertorous breathing and deficient reflex actions in the extremities; lastly, an accelerated and frequently increased volume of the pulse at first, succeeded by a fearful depression, if chloroform be repeated in the ordinary doses of one or two drachms, indicating that the last and therefore most important stronghold of life is invaded—viz., the ganglionic or organic portion of the nervous system.

Fourth Experiment.—A small frog was placed under a claret-glass, and one minim of chloroform was administered as before. The animal slowly lost voluntary power and sensation. I placed it on its back, and dropped on the lint one minim of chloroform every quarter of an hour. It continued to lie on its back, visible respiration having ceased, but the heart's action continued vigorous for an hour. On removing it from the vapour, it recovered sensation and volition immediately.

Of course the degree to which the frog is affected depends entirely on the strength of the chloroform. These experiments, and reflection, led me to try much smaller doses of chloroform in my patients, and the results have been most satisfactory to myself, and, I believe, to all who have witnessed them.

My attention has been directed, for several months, to ascertain, if possible, the minimum quantity of chloroform capable of producing complete insensibility to pain, by which I hoped to diminish the danger, by limiting its operation to the cerebral portion of the nervous system, and thus to avoid the unpleasant after-effects, which I can, from experience, testify are very hard to bear—I mean, the headache, the distressing nausea and vomiting, and the abnormal sensibility. If I have succeeded, I shall have only done for chloroform what has been already done for every powerful remedy in frequent use. It may perhaps be said that the proportion of deaths, compared with the numbers who have inhaled chloroform, is very small. This I grant; but to those few who have succumbed, it would have been of vital importance had the minimum efficient dose been previously ascertained. Had not this principle been admitted, with regard to all active medicines, poisoning would indeed have been frequent. I have for some time administered it to my patients with Dr. Snow's admirable apparatus, which I prefer, for the following reasons; that the dose can be measured with more precision than with the handkerchief or sponge, as, with the apparatus, all, or nearly all the chloroform is inhaled by the patient, mixed in tolerably exact proportions with atmospheric air; that, by a simple addition of mine of a silver funnel, introduced into one of the holes through which the air is drawn into the chamber containing the chloroform, the mouth piece need not be removed until the completion of the operation; that the chloroform being at a distance from the mouth, more air is mixed with it, and the lips are not blistered, nor the conjunctivæ irritated—most unpleasant results of the handkerchief or sponge.

I first tried about a year and a half ago, half-drachm doses administered every two minutes, in a woman whose leg I amputated at the Salisbury Infirmary. Most perfect anæsthesia was induced by three doses, but the spinal portion of the nervous system was so much affected as well as the organic, that respiration and the pulse fell almost to zero.

I next tried twenty-five minims, and then twenty, introduced into the instrument every minute. The following case will speak for itself.

Accident ward, Salisbury Infirmary.—On January 7, 1851, I amputated the leg of Samuel H——, aged fifty-three years, for compound fracture, followed by erysipelas and much sloughing of integuments. The profuse discharge and increasing debility rendered amputation necessary; the erysipelas having disappeared some days before. My able colleague, Dr. William Finch administered the chloroform with Dr. Snow's instrument, in doses of twenty minims, every minute. Anæsthesia was perfect in five minutes, having gone slightly into the convulsive stage. The amputation, including tying the vessels, occupied thirteen minutes; during the operation it was thought that he was recovering from the anæsthesia, and twenty minims more were introduced. He felt no pain, his breathing was quiet, and his pulse, though it diminished in velocity, never for a moment lost in power. He had no nausea nor vomiting. He made a good recovery.

Lately, I have administered fifteen minims every minute with equal success as regards insensibility to pain, and with greater advantages as to the subsequent headache, &c.

I have not yet met with a failure; some may, of course, require a greater number of doses, but none have yet required more than six. The following short notes of cases will, I think, be sufficient:—

E. P——, private patient, Feb. 22, 1851; onychia; fifteen minims every minute; anæsthesia complete in four minutes; quantity inhaled one drachm; pulse good; no convulsive movements; no sickness; slight headache next day.

W. H——, aged forty-eight years; Bartlett ward, Salisbury Infirmary; fistula in ano; March 17, 1851; fifteen minims every minute; anæsthesia occurred at the end of the third minute. He inhaled forty-five minims; slight convulsive action; no sickness nor headache; pulse rose slightly, and continued full.

J. B——, aged forty-five years; Bartlett ward; injection of hydrocele; March 17, 1851; fifteen minims every minute; required six doses; perfect anæsthesia; neither convulsions, nausea, nor headache occurred; neither did his pulse diminish in volume.

I ought to have stated before, that I invariably order an aperient, where I have the opportunity, the night previous to the operation, and allow only a light breakfast on the day itself. When about to administer the chloroform, I desire the patient to hold up one hand; when it drops, I commence the operation.

I have tried ten-minim doses, without success; but there may be found one between ten and fifteen minims equally efficient. I hope it may prove so, as my sole object is to ascertain the minimum efficient dose, and to diminish, not only the dangers, but the painful feelings, which occur after unnecessarily large doses of chloroform. If my efforts aid in accomplishing such a desirable end, I shall be amply repaid.

Death of Lord Langdale.—The Master of the Rolls died on Good Friday, at Tumbridge Wells, in his 68th year. He was the son of a medical practitioner, and was himself destined for that profession.

REMARKS ON THE TREATMENT OF STRICTURE OF THE URETHRA BY PERINÆAL SECTION.

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The following observations are the substance of a paper lately read before the Edinburgh Medico-Chirurgical Society, and have been dictated by the belief that the time has now come, when all members of the profession are called upon, as opportunity may offer, and in no spirit of controversial personality, to contribute what they may towards the elucidation and settlement of this important and interesting department of practical surgery.

The treatment of stricture of the urethra by perinæal incision is no new practice. The operation was not uncommon in the time of Sir Everard Home; applied to strictures believed to be, if not impermeable, at least otherwise unmanageable. It is thus described by Sir Benjamin Brodie, (On Diseases of the Urinary Organs, third edition, 1842, p. 64:) "It has been proposed, in cases of very old stricture, to make an incision in the perinæum, so as to expose the whole of the contracted part of the urethra, and to divide the stricture with a knife, introducing a gum-catheter afterwards through the urethra into the bladder, and allowing the wound to heal over it. I have performed this operation myself in one instance, and with success; and I have heard of it being performed several times by others." This operation, however, is estimated by Sir Benjamin as not free from either difficulty or danger; and therefore to be reserved as a last resource for those cases only which are in no other way curable. Sir Charles Bell, having made trial of it, speaks more confidently in its favour; all the more perhaps that he had assured himself of its *applicability* to all bad strictures; seeing that upwards of a hundred dissections had satisfied him of two things,—1, that no tight stricture exists farther back than that portion of the urethra which terminates in the membranous part; and 2, that the membranous part, behind the stricture, is invariably dilated to an unwonted size; thence deducing that the stricture is safely accessible to perinæal incision; and that the cystic portion of the urethra, immediately behind the stricture, is favourably circumstanced for being *hit* by the knife. Sir C. Bell's Surgical Observations, pp. 56 & 57.)

In that most useful repertory of all things surgical,—"Cooper's Dictionary," (p. 1335,) we learn that Dr. Jameson, of Baltimore, practised this operation very extensively, and with great success. The following is from the pen of Dr. Reese:—

"Professor Jameson, of Baltimore, has introduced an operation by which he has succeeded in curing a large number of obstinate cases; and although he only advises and performs this operation in the worst instances of severe, long-continued, and complicated stricture, the proportion of cures has been greater than is ordinarily found in the practice of any surgeon who treats all kinds of cases indiscriminately, by any of the former methods.

"In the *Amer. Med. Recorder*, for 1824, Dr. Jameson has published an essay on Stricture of the Urethra, in which he reports a number of cases, with their treatment and results. Several of these cases came under my own notice; and, during my former residence in Baltimore, I witnessed this operation several times, and had an opportunity of seeing his success, and the entire removal of the disease.

"This operation consists in opening the urethra through the perinæum, and introducing a flexible catheter through the penis into the bladder, which is suffered to to remain until the wound in the urethra is united.

"The patient is tied as for lithotomy, and a sound introduced as far as it can be passed, which serves as a guide, if it can be introduced, as far as the bulb. An incision is now made through the perinæum, and the urethra laid open. In bad cases he advises to divide the triangular ligament both above and below the urethra. The forefinger is then to be introduced through the remainder of the stricture. When it is necessary to divide the muscles surrounding the membranous part of the urethra, a director is first introduced, and the incision made with a scalpel or bistoury, when the finger may be passed into the bladder. A flexible catheter is now passed through the penis into the bladder, and the wound is placed in the most favourable circumstances to unite.

"Though this operation is as severe, and even sometimes more difficult than lithotomy, Dr. J.'s experience has shown that it is seldom attended with danger. The only cases in which this operation would be advisable, are those in which no sound or staff can be passed into the bladder; and herein consists the difficulty of the operation. It is a means, however, which has afforded relief in cases which had otherwise been abandoned as hopeless."

Mr. Liston recommended the operation in the case of retention of urine caused by stricture, when the efforts of the surgeon to pass the catheter proved abortive, (Practical Surgery, third edition, 1846, pp. 483-4;) preferring it to any other method of relieving the bladder; inasmuch as while the latter indication was satisfactorily fulfilled, an important step was taken towards radical cure of the stricture; cause and effect were at once removed. He adds, however, that the cases in which such necessity may be expected to arise are very few, and that he himself never had occasion to perform the operation under such circumstances—that is to say, during the crisis of retention. That he did perform it, however, and that not seldom, in the quiet state of the canal—that is, when no urgency by retention existed—is very plain by reference to his "Practical Surgery,' fourth edition, 1846, pp. 465-7, where he states that he "had *pretty frequently* occasion to relieve a patient by cutting down" &c., when tight stricture existed after complete division of the urethra by violent injury; and where, after narrating the particulars, of some cases in which he had performed perinæal section, and one of which at least was not connected with external injury or fistula, he observes, "*many* similar cases might be added, if necessary."

Other authorities might be quoted; but enough has been done to show that perinæal section in stricture has not wanted the sanction of good surgeons. At the same time, it is worthy of note, that the operation is spoken of as sometimes difficult, by no means free of danger, and not warrantable unless the other and more ordinary means of cure have been tried and found ineffectual.

In two instances I have had occasion to resort to this procedure. In one, the patient was a porter, aged thirty-five, of bulky frame and intemperate habits; admitted into hospital 13th March, 1850, on account of stricture, which he declared had proved impenetrable to many surgeons. A hard circumscribed swelling could be plainly felt through the perinæum in the region of the bulb, about the size of a hazelnut; and the smallest catheter, passed down to this, obstinately refused to enter any part of the stricture. The swelling, so hard and circumscribed and resisting, was thought by myself and colleagues, in consultation, to be a calculus impacted in the urethra, and accordingly it was resolved to cut it out. The patient having been placed as for lithotomy, and under chloroform, a central incision was made; but instead of a stone I found only gristly induration of the perinæal tissues. Accordingly I immediately changed the plan of procedure; and having by cautious continuance of the incision exposed what I believed to be the shrivelled remains of the urethra—looking like a narrow lacuna—I divided the whole constricted part, and then had no difficulty in passing a silver catheter of medium size from the orifice of the urethra on to the bladder, retaining it for nearly three days. No bad symptom occurred for five days after the operation; urine flowing freely, partly by the urethra and partly by the wound. On the fifth day, however, symptoms of pyæmia set in, of great severity; beginning with rigors and great pain in the calves of the legs, which soon suppurated; running the ordinary course of oppressed respiration, delirium, prostration, leaden colour of face, &c.; and proving fatal on the nineteenth day after the operation. There was no swelling of the perinæum or scrotum, and the wound retained a perfectly healthy appearance, presenting no sign of infiltration or abscess. The case seemed one of pure pyæmia, at that time unfortunately prevalent in my wards; and I believe that the unfortunate issue might have resulted as readily from any simple wound as from that of the perinæum. The friends obstinately refused to permit post-mortem examination.

Here no difficulty was experienced in performing the operation, and the fatal result seemed to depend on a casualty, unconnected with any specialty in the operative procedure. The other case, operated on in March, 1847, had a more fortunate termination. The patient was a gentleman, about fifty years of age, who had laboured under bad stricture for a long series of years, deriving imperfect relief from may surgeons, both here and in London. At last retention occurred; and the surgeon, in passing a small catheter, which he did with difficulty, felt a grating in the passage. On account of this I was asked to see him; and recognising the presence of a calculus impacted behind the stricture, which was of some extent, and felt dense in the perinæum, it was resolved to remove the calculus by excision, and at the same time to cut through the callous stricture in its front. This was accordingly done without difficulty, and a catheter of medium size was retained in the bladder for about two days. On withdrawing it, all advanced favourably; the wound soon healed; health was speedily regained; and although from that day to this no catheter or bougie, so far as I know, has ever been passed, the patient continues "in perfect health, without the least feeling of inconvenience from his former ailment."

This case was obviously not an example of urethral calculus causing stricture,—the latter affection remedied by simple removal of its cause; but was truly an instance of old-standing, tight, gristly stricture, *ultimately* complicated by calculous impaction behind, and definitively cured by perinæal section. And it is further a proof, that *sometimes** such section may suffice for thorough and permanent cure, without subsequent use of bougie or catheter.

Of late, a modification of such perinæal section has been proposed, practised, and strongly enforced by Mr. Syme, the peculiarities of which seem to be twofold.† 1. *An instrument is passed through the stricture*, on the groove of which instrument, as a director, the stricture is divided.‡ 2. The operation is *extended* to other cases than those which have actually proved intractable by other and gentler means; rating the operation as one of *expendiency*, in some measure, rather than of absolute *necessity*.

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* *Only* "sometimes," as will afterwards be stated.

† I do not here allude to the method of *subcutaneous* incision of stricture, at one time proposed and practised by Mr. Syme—a method which must always be liable to the fatal objection of risk by urinary infiltration; but I allude to Mr. Syme's monograph on Perinæal Section, published in 1849.

‡ Something like this is advised by Sir B. Brodie, (on Diseases of the Urinary Organs, p. 44,) when infiltration of urine has taken place by giving way of the urethra. Then the stricture may be expected to relax somewhat; and "you will probably now be able to introduce

As to the first peculiarity; this implies that *all strictures are permeable*, not only to urine, outwards, but also to an instrument, inwards.[*] In reference to this question, it is agreed by most authorities that actually impermeable strictures are very few. Mr. Liston, in his "Elements of Surgery," (2nd edit, p. 600,) thus expresses himself:—

"It is no easy matter to pass the instrument, in many cases, and particularly when ineffectual attempts have been made previously. By gentle insinuation, and perseverance in moderate pressure, properly directed, the obstacle can always be overcome,—and that without the infliction of any injury to the parts. I may here observe, that I have never yet been foiled in passing the catheter, though very many severe and difficult cases have fallen to my lot; in other words, I have never been obliged to abandon my attempts to obtain an exit for the urine by its natural passage, and as a last resource, to mutilate and endanger a patient by making an unnatural aperture in his bladder. Yet circumstances may soon occur to me, in which the introduction of an instrument along the urethra shall be impossible; no man, it has been said, can be always wise or always fortunate; and he who pretends to invariable success must be either a knave or a fool."

This quotation, of course, I do not mean to apply to Mr. Syme's assertion, that all strictures are permeable, further than as a strong and characteristic expression of Mr. Liston's belief, that he himself might live to see the day when he should fail in the use of the catheter; and it is to be observed, that when he states "I have never yet been foiled," he means that statement to apply *only* to the crisis of retention.[†] We shall presently show that not unfrequently he had encountered strictures, not complicated by retention, which proved to him quite impermeable; and I shall here add—considering it no detraction from the vast reputation of that great surgeon so to do—that he did live to see the day (although, alas! cut down far too soon) when he *was* foiled with the catheter in the crisis of retention, and was in consequence compelled, with what reluctance we can well imagine, to puncture the bladder from the rectum, on account of "impermeable stricture." For myself, I cannot avoid the conviction that some strictures there are, which at least ought to be considered impermeable to the catheter and bougie; those especially where obliterative consolidation has taken place in one part of the urethra, with fistulous opening behind—the result of abscess, or of external injury. A case of this kind, for example, is narrated by Sir C. Bell, in his Surgical Observations," p. 128, in which he performed successfully the perinæal section—and something more, inasmuch as he tells us that he "*cut out* a portion of the callous urethra." Mr. Liston, as has already been stated, performed perinæal section "pretty frequently," ("Practical Surgery," 3rd edit. p. 465, &c.,) on account of otherwise insurmountable obstruction of the urethra, the result of external injury; and "many of the cases," too, "were recent." One patient is alluded to, (p. 466,) in which "the passage had been *totally obstructed* for twelve years," and where a trocar was used to open up "the obliterated part." And the history of another patient is stated, (p. 467,) in which, irrespective of external injury, and as a result of phagedænic ulceration of the penis, the contraction of the urethra "existed to such a degree, that a catheter could not by any management be placed in the bladder;" the perinæal section was had recourse to with success; and it is subjoined, "*many* similar cases might be added." Dupuytren, in his "Clinique Chirurgicale," (tom. iii. p. 145,) alludes to the occurrence of impermeable stricture as an understood fact, and speaks of the proportion in which such strictures may be expected to occur, as well as of the treatment required. But, without seeking for distant authorities and manifold examples, I would content myself with the following, derived from a source which, under the circumstances, must be held as quite unexceptionable—namely, from a paper on the treatment of Stricture, communicated by Mr. Syme to the *Monthly Journal of Medical Science*, in 1844. In Case 3, (p. 822,) a tight stricture followed the kick of a horse on the perinæum; and it is stated, "I found a stricture of the urethra opposite the scrotum, so tight that it would not admit the smallest probe, and surrounded by a mass of thickened and indurated texture, &c. . . .. After trying various instruments, without success, I passed an exceedingly slender catgut bougie" &c. This is *almost* an impermeable stricture; the next is *completely* so. In Case 2, stricture followed gonorrhœa; and the urethra having been examined, (p. 821,) was "found to be contracted a little more than two inches from the orifice, so tightly, that the smallest probe could not be passed through the stricture, which was distinctly recognised through the integuments by the induration surrounding it, and felt like a broad, hard ring. Mr. Syme, baffled with the bougie, resolved to divide the stricture by incision;" and *as the guidance of a director was not available for this purpose*, I proceeded in the following manner,"—performing the old operation, in so far as there was no director to guide the knife, but deviating from it in using the knife sub-cutaneously, instead of by direct incision—a procedure, as already stated, inseparably connected with much risk from infiltration of urine. Here, then, is indisputable evidence of impermeable stricture having occurred in the practice of Mr. Syme himself, as well as in that of some of the most eminent surgeons of which our profession could ever boast.

Such impermeability is of course most to be dreaded in the crisis of retention, when there is no time for deliberation, and auxiliary means and renewal of the attempt at intervals of considerable duration. Perhaps the bladder has been already too long unrelieved, and the passage must be made at once or not at all; at a time, too, be it observed, when the surgeon may be provoked by circumstances to use force, perhaps unconsciously, and when the urethra is peculiarly susceptible of laceration from force so applied. I have been once foiled under such circnmstances; constrained, in prudence, to desist from further attempts by the catheter, and to relieve the bladder by puncture.

And this leads me to observe, that the term "impermeable stricture" seems to be an equivocal one. No stricture need be impermeable; all may be forced, but with the risk of a false passage, and serious results ensuing. A provincial surgeon of great experience used to boast that no strangulated hernia had ever resisted his hands; with him the taxis never failed; all cases were to him reducible. But such was dangerous practice, and it seems to me that a similar risk must attach to the maxim, "all strictures are permeable." The student and young practitioner may be taught, that to fail with the instrument must always be a sign

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a catgut or some other bougie through the stricture into the bladder. . . . . Let the patient be held in the position in which you would place him for lithotomy; make an incision in the perinæum; feel for the catgut bougie, make an incision *on it*, and of course you make an opening in the urethra," etc. Here the principle is plainly recognised of cutting on a director of some kind, when we can.

[*] "There being no truly impermeable stricture." (Syme, p. 57.)

[†] One reason for such invariable success may perhaps be, as stated in his own words: "In cases of retention from stricture, the difficulty is often considerably less than when the operation (passing the catheter) is performed, with the view of removing the contraction, the bladder and posterior part of the canal being usually, at that time, undistended." (Practical Surgery, p. 481.)

of deficient dexterity, and, in consequence, they may be tempted to such rashness of procedure as Sir C. Bell well deprecates in the following extract, (Surgical Observations, p. 57:) "I enter a protest against the advice contained in the following passage—'If the catheter could be thrust through this obstruction, and driven into the bladder, even at the expense of some violence and much blood, would such rudeness be fatal? By no means; such an operation would, on the contrary, give present relief.' What a licence is here for heavy heads and hands? But what follows is worse: 'Dease, a man intrepid and fearless, and who had not (to a surgeon, perhaps, it is no reproach) all the delicacy and gentleness of nature which was so justly admired in Dr. Hunter, was in the habit of driving his catheter right onwards into the bladder, when at any time gentle means, or art, or cunning failed; he allowed no degree of difficulty to frighten him from his purpose, &c.' Intrepid and fearless are good words when well applied; and so are gentleness, and art, and cunning, but they are here so strangely thrown together, as to present the idea of an odd sort of monster, which I am pretty well assured never existed, to be admired, respected, and loved, as I have heard Mr. Dease was. Be that as it may, the practice is most dangerous, and the worst that ever was divulged. Let me intreat my reader never to yield to the temptation here held forth. It were better to puncture the bladder at all the three places at once, than that such a liberty as this should be permitted to the young surgeon."*

Besides, a stricture which is at one time impermeable, may, by spontaneous change, irrespective of all treatment, become permeable. An example of this is afforded by Mr. Syme,† when he says that a case of stricture which had been under the care of Mr. Liston, in the North London Hospital, and had obstinately refused to yield to that surgeon's efforts to pass an instrument, afterwards came under his own care in the same charity; and that he succeeded in passing an instrument into the bladder. Putting the manual dexterity, tact, experience, and general accomplishment of Mr. Liston and Mr, Syme on the same level,—an arrangement to which I am sure the latter gentleman will not object, it follows that the stricture, at one time impermeable, at another time had ceased to be so, independently of curative treatment.‡

On this part of the subject my belief is, that some few strictures there may and will be found which are not, or ought not to be, permeable; and that in these, rather than encounter risk by forcible propulsion of the instrument, it were better to perform the old operation.

As to the second peculiarity of Mr. Syme's operation. Extension of perinæal section, on a grooved instrument passed through the stricture, obviously is warrantable in such permeable examples only on two grounds; first, that thus cure will be rendered more rapid and certain than by other means; second, that the plan of procedure is equally safe.§ As to the first of these grounds, undoubtedly such perinæl section is more rapid, but I am inclined to think that it is not more certain, in most cases of permeable stricture, than the rightly conducted treatment by instrumentation. And here we must not lose sight of two modes of using the catheter and bougie, well adapted to the final subjugation of cases even of great obstinacy. *a.* The method of *tunnelling*, as it may be called, founded on the fact that immediate penetration of the stricture is not essential to its cure. Instead of a small bougie, one of medium size is selected, (5, 6, or 7,) and is passed down to the contracted part, into the anterior portion of which the extremity of the instrument, made somewhat conical for the purpose, is sought to be insinuated. There it is allowed to remain, for a longer or shorter time, according to the feelings of the patient; and such use of the instrument is repeated at the ordinary intervals. On each occasion the penetration may be expected to deepen; ultimately, the whole obstruction having been removed, as it were by instalments, the instrument glides unopposed into the bladder; and from this high platform (No. 7 it may be, instead of No. 1 or No. 0) the surgeon then proceeds in the ordinary work of final dilatation. One precaution is obvious in very tight cases: to beware of pressing on the side of the canal instead of on the stricture itself, in the first use of the instrument, lest a sacculation or false passage should be formed. Sir B. Brodie (op. cit., p. 56) lends the weight of his high authority to this practice, instancing a case in which it was successful after the failure of all other means. "For many years (says he) no instrument had been made to enter the bladder, and the ordinary methods, after a long trial failed in my hands, as they had done in those of others." In my own experience, many an obstinate stricture has given way satisfactorily to this means, often without much or even any delay, and always without any unpleasant complication.* *b.* The other method is by tying in the catheter for forty-eight hours or thereby, a method well suited to the gristly and resilient stricture. On withdrawing the catheter, which is felt loose, a bougie, of medium size may usually be introduced with comparative ease; and from this elevated point in the treatment, the surgeon, as in the former case, advances with ordinary dilatation. Retention of the catheter is contemplated to occur but once, not by frequent repetition,† as stated by Mr. Syme, who speaks disparagingly of this mode of treatment, (p. 52.) "The catheter is no sooner withdrawn than the symptoms of contraction return, and often prove more troublesome than they were previous to its introduction.' Such is very contrary to my own observation and experience; but for obvious reasons, I prefer adducing again the authority of Sir B. Brodie, supported by that of Mr. Liston. Sir Benjamin observes, "Thus you may, in the course of ten days or a fortnight, dilate a very contracted urethra to its full diameter. This is a very certain and expeditious method of curing a stricture. . . . I do not remember that it failed in a single case among many in which I have resorted to it." (Op. cit., pp. 57, 58, 59.) Mr. Liston says, "This is a very efficient, safe, and quick method of freeing the patient from bad stricture. . . . Thus the worst possible stricture may be conquered, and the patient completely restored to health, if indeed the kidneys have not suffered materially." (Prac. Surg., 3rd edit., pp. 447-8.) If it be objected that the tying-in of the catheter is an irksome and formidable proceeding, the answer is obvious, that no more is done, in this respect, than what is practised after perinæl section; and surely retention of the catheter for forty-eight hours is less formidable without than with a perinæl wound.

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* Of course I do not mean to infer that Mr. Syme practises the forcing of strictures, but only to express my fear that an unqualified enunciation of the maxim, "all strictures are permeable," may lead the younger members of the profession to such procedure as is here so justly reprobated.

† I here quote from recollection, not being able to lay my hand on THE LANCET, (I think,) where I read the circumstance here mentioned.

‡ This may be one reason, among many others, why the bold challenge of Mr. Syme to English surgeons has not been accepted. A stricture, impermeable in London, may, to the same, or even inferior hands, spontaneously become permeable elsewhere.

§ Mr. Syme's final conclusion (p. 58) is, "In cases of less obstinacy, but still requiring the frequent use of bougies, division is preferable to dilatation, in affording relief more speedily, permanently, and safely.

* I do not think that Mr. Syme alludes at all to this method in his monograph.

† "Progressive increase of size" is not contemplated in the catheters tied in, but in the bougies used in the ordinary way, after a catheter has been once retained,

But it may be said, "strictures so treated are prone to relapse." To this I reply, that in almost all cases such relapse is not the fault either of the surgeon or of his system of treatment, but of the patient himself. After having obtained half a cure, he grows irregular in his attendance, resumes careless living, perhaps lapses into dissipation, and does not return to regular treatment until recontraction of the urethra has warned him of his folly and risk. But let the dilatation be completed, till a full-sized instrument has on many occasions passed the whole canal unopposed; then let occasional introductions be maintained (the *protesting* bougie) at gradually lengthening intervals; at the same time the general health, and especially the functions of the kidneys, being carefully attended to;* and I believe that under these circumstances, tendencies to unusual resiliency and relapse will be sought for in vain. In other words, I believe that in most cases of stricture as perfect and permanent a cure may be obtained in this way as by any other means of treatment, however heroic that may appear.

As to the second ground for extension of the treatment by perinæl section. Is it equally *safe* as the use of the catheter or bougie?† Mr. Syme's experience speaks favourably on this point: "thirty-eight cases without a fatal result." But fatal results *have* occured in other hands, both in London and in Edinburgh. And it is not easy to see how a certain amount of risk can be avoided in such an operation. 1. By hæmorrhage. No doubt the safety here is to cut in the centre, and only in the condensed and solidified tissues which compose the stricture. 2. By urinary infiltration; and we know that very little of this may prove fatal, the urine acting as an intense poison on the system.‡ 3. By abscess in or near the wound, leading perhaps to fistula,§ and irritative or hectic fever ensuing. 4. By intra-pelvic abscess. 5. By erysipelas. 6. By pyæmia.

In illustration of such risks, I may here briefly narrate the leading particulars of a case in which Mr. Syme and I have a common interest; and as we have also a common object in view—namely, the truth—it seems immaterial from which party the narrative shall proceed, the more especially as I extract the particulars from an account written by the patient himself—a gentleman of middle age and great intelligence. He had long laboured under tight and very irritable stricture. He had been under the care of Mr. Liston and myself, at various times; but the remarkable irritability of the urethra prevented continuous treatment, and his life was embittered by oft-returning attacks of cystitis. This seemed a case in all respects suitable for perinæal section. It was just possible, that by the aid of chloroform the bougie alone might have ultimately removed irritation, and accomplished a cure—as has happened to me in other examples, (Principles of Surgery, 2nd edition, p. 792.) But, on the whole, Mr. Syme's operation seemed preferable. And, accordingly, this having been agreed to in consultation, it was performed by Mr Syme on the last day of January, 1850. After the operation, suppression of urine took place, during twenty-four hours, along with unpleasant symptoms of *shock*. Fever set in, accompanied by pervigilium, and great general uneasiness. After forty-eight hours, the catheter was removed. On Feb. 3, the constitutional disturbance became extreme; as indicated by violent sickness and vomiting, rigors, loss of voice, cold blue surface, feeble pulse, and recurrence of suppression of urine. After about twelve hours' continuance, these symptoms yielded to stimulants.—Feb. 5: There was great uneasiness about the scrotum and perinæum; and on the 7th, abscess had formed in front of the wound. This was opened, and through the aperture urine as well as pus was discharged; the former continuing to pass through this wound as well as through the original one for many days. The greater part of the urine, however, came per urethram, in a flat yet free stream; and without that peculiar distress to which the patient had previously been so long accustomed. When the wounds had nearly closed, a bougie was passed; but the effect was to re-open the wound, with increase of pain in the urethra. And, in consequence, at the urgent solicitation of the patient, the bougie was refrained from till a more advanced period of the case.—Feb. 22: The urine had become very loaded and fœtid, and continued to be of a depraved character for nearly a month. Up to this date, "no appreciable sleep had been enjoyed; the patient never knew that he had slumbered, even in broken rest, for one moment; he was reduced to skin and bone; and now began to feel great discomfort in lying on his right side. At the same time, intense pain occurred in the rectum after stools." These symptoms increased; and on the 15th of March, I detected a large abscess pointing in the rectum, about two inches from the anus, and mainly occupying the right side of the pelvis. This I immediately evacuated, with instant relief; and "the patient, with the aid of morphia suppositories, was afterwards blest with the first genuine night's rest since the 30th of January." The abscess continued to discharge for about three weeks; and at the end of that time the presence of matter could no longer be detected in the stools. On March 31, the wounds had been closed for fourteen consecutive days and accordingly it was deemed safe to pass the bougie. Nos. 8 & 9 were insinuated with great gentleness; but next day the perinæum was again inflamed; abscess formed; and once more the urine was discharged in front by the opening in the scrotum. From this date, however, the patient gradually recovered. He left Edinburgh for the south on the 18th of May, with the perinæum quite closed, and passing his urine in a very satisfactory way. In July he returned, to have a bougie passed; and No. 9 entered without difficulty or evil result. "The contraction of the urethra, however, was by no means permanently cured;" and accordingly, on the 9th of November, the regular use of bougies was commenced, with the view of securing final and full dilatation. At first, I passed No. 6 with difficulty, but No. 12 now enters without obstruction; and the patient having himself acquired the power of occasional introduction, cure may be considered complete. He thus concludes his narrative: "The patient feels satisfied that No. 12 would never have passed without the operation, and that the effect of the latter has been to render the urethra less sensitive than formerly, and hence has enabled a cure to be perfected, which otherwise had been impracticable. At the same time, it remains to be seen whether periodical recurrence to mechanical treatment may not be necessary; and it may be doubted whether, at the risk evidently incurred, the operation should be hazarded, except in cases incapable of being otherwise treated."

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* Mere handiwork will not succeed in stricture any better than in other complaints. There is no "*pure* surgery;" at least there ought not to be. The department of the surgeon is medico-chirurgical, not simply chirurgical; and every practitioner knows that in no class of diseases is the aid of *medical* science more valuable, and indeed essential, than in those of the urinary organs. Many strictures may be prevented, and some may be cured, by medical treatment alone. And I have a dread of the terms "pure surgeon" and "pure surgery," as operating on the mind of the student; leading him, it may be, to neglect or despise that part of his professional accomplishment, without which he were but a fit representative of the barber-surgery of a less enlightened day.

† Mr. Syme, in his monograph, deals rather hardly with the bougie on this count. In illustration of the bad effects of its use, "except in cases which yield readily," (p. 47,) he adduces but four cases in all, (p. 48.) 1. A gentleman had a bougie passed on a cold winter day, and, though advised to go straight home, accompanied a lady to whom he was engaged, to church; "in the evening he had a rigor, and next day a swelling in the perinæum." No wonder; but surely the bougie need not be blamed for this. 2. "A gentleman, after having a bougie passed for a stricture, walked home the distance of between two and three miles during a fall of snow." Fever followed with inflammation of the leg, suppuration of the hip joint, etc., and proved fatal. Again, no wonder; but, again, it were obviously unfair to blame the bougie. 3. "A third patient, under treatment for stricture of old standing, went to the country in cold winter weather." Fever followed, with abscess of perinæum, extravasation of urine, abscess of hip, &c., and again the result was fatal. But might not all this have happened just as probably if no "treatment" at all had been previously adopted? 4. A bougie was passed, or attempted to be passed, through the stricture of an irritable patient, "violent fever followed, and terminated in death at the end of forty-eight hours." A like result has followed mere sounding for stone, and yet no one blamed the sound. And similar cases are to be found in abundance, in Traver's on Constitutional Irritation, as well as in other faithful records; the true cause of death being not in the surgeon or his instruments, but in the peculiar irritability of his patient's system.

‡ In reference to this, it is obviously of much importance that, when chloroform is given, deep stupor should be uninterruptedly maintained until the catheter is fairly lodged in the bladder, otherwise the straining of the patient, which invariably accompanies partial awakening during operation, can scarcely fail to force urine into exposed areolar tissue.

§ Vide Syme, p. 40. "The urethra had a very thin covering at the seat of the aperture, which therefore was apt to open from time to time, and discharge a little urine. Fistula here probably proved permanent.

On the whole, I would venture to conclude—1. That most strictures are permeable; that the great majority of these are curable by other and safer means than perinæal section; and that the metallic bougie and catheter, when rightly used, are neither so injurious nor so inefficient, as Mr. Syme has represented them to be. 2. That permeable strictures, which refuse to yield to cautious and correct instrumentation, combined with suitable general treatment—strictures, also, which yield in part, but speedily and pertinaciously relapse—and strictures which are so impracticably irritable as absolutely to interdict the use of instruments, even with the aid of chloroform, opium, Indian hemp, nitrate of silver, &c.—that such strictures may and ought to be treated by perinæal incision, after the manner of Mr. Syme; *but that such strictures are very few.* I may add, that strictures which, though bad, do not yet come altogether within the preceding category, may be subjected to perinæal incision, when *time* happens to be of great importance; where the patient, for example, is a labouring man, and anxious to be as short a time as possible laid aside from the maintenance of his family. 3. Those strictures which are impermeable, or ought to be considered such—and they may be expected to prove still fewer—should be treated by perinæal section, after the old method—making a direct incision in the central raphé down upon the obstructed part, guided towards the limits of this by a catheter or sound passed down to the stricture, in front, and by the dilated portion of the urethra behind, cutting through the stricture completely, endeavouring to open the primal canal, and lodging a catheter of medium size in the bladder. This operation seems to be somewhat harshly spoken of by Mr. Syme, (pp. 56, 57.) The new canal is not necessarily either "tortuous" or "imperfect;" and the uniform presence of dilatation behind the stricture, already alluded to—never farther back than the membranous portion of the urethra—prevents "the immediate hazard of failure in accomplishing the introduction of a catheter into the bladder."* The best proof of the safety of the procedure is, that it has been practised successfully by Sir B. Brodie, Sir C. Bell, Mr. Liston, (frequently, and "without difficulty," p. 465,) Mr. Jameson, and, besides not a few others, by Mr. Syme—although, indeed, the last named gentleman, in his recorded case, added the somewhat equivocal innovation of rendering the incision subcutaneous.*

As to Mr. Syme's monograph, I would respectfully observe, 1. That while he has overstated the risk attendant on the use of the metallic bougie and catheter in the treatment of stricture, he has understated their efficiency. 2. That the operation proposed by him is admirably adapted for certain specified cases; few in number. 3. That it is not applicable to all cases intractable by other means, there being some strictures which are actually, or which should be considered to be, impermeable. 4. That the operation is not devoid of danger. 5. That progress towards cure, thereby, is not always smooth and uninterrupted. 6. That the operation will be found not always, and probably not often, sufficient of itself to cure. 7. That, subsequently to the operation, instrumentation is required in the ordinary way; the main use of the incision being, besides diminution of morbid irritability, to give the practitioner a good *start* in the use of the bougie, as after tying in a catheter. 8. When cure is completed, by instrumentation following on incision, dilatation may be expected to prove permanent; inasmuch as such cure may not depend on mere expansion of the primal canal, but on something like *reproduction* of a portion of the urethra at the strictured part—a supposition which seems encouraged by the case narrated by Sir C. Bell, (p. 130, Surgical Observations,) in which he states that he not only cut into, but actually "*cut out* a portion of the callous urethra;" and, notwithstanding, the patient was cured, through the use of bougies, "making a full stream of urine by the natural passage." The ordinary tissues at the part may be condensed, changed, and invested by a membranous lining, so as to cure the constriction by not merely dilating the old canal, but by *patching*, or *letting in* a new portion. Towards this end, however, it is very obvious that the use of the bougie, subsequently to the operation, is quite essential.

Or, further to condense, I believe that Mr. Syme's operation is a good operation, and an important addition to operative surgery, applicable to certain bad—very bad—strictures, which, however, are likely to prove, in the hands of a surgeon who practises all the departments of his art, and practises them all well, extremely few. 2. That those bad strictures, which are still worse, being impermeable, should be cut in the old way, and that such strictures are likely to prove still fewer. 3. That all other strictures—and these constitute a vast and overwhelming majority of all strictures—should be treated by instrumentation (catheter or bougie,) variously employed, without incision.

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* Mr. Syme's contrast of the old and new operations is brief and emphatic: "The former (the old) is protracted, uncertain, dangerous, and unsatisfactory; while the latter (Mr. Syme's) is done at once, perfectly safe, and completely effectual."

ON MEANS FOR EFFICIENT VACCINATION.

By George M. Leese, Esq., M.R.C.S. & L.S.A.,

Stationary-Vaccinator of the N.V.E.

Vaccination is a safeguard against small-pox, being a point of great importance to the community at large,—and having lately caused a discussion at the Royal Medico-Chirurgical Society, (as published in your journal,)—allow me to offer a few remarks on the subject: which, with all due deference, certainly differ from some observations expressed by Dr. Gregory at the time, and in a letter subsequently, wherein he states, "that the prohibition to inoculate vaccinated persons is universal, and ought to be repealed." I am strongly of the opinion that a repeal of the law of this country, in that respect, would be injudicious and mischievous, leading to many untoward results,—not merely, or even so much, to the individuals themselves, as to others,—by frequently producing epidemic variola. In the case recited before the Society by Dr. Webster, we find that one attack of variola (after vaccination) did not prevent a recurrence of that disease terminating fatally. Many cases have been known of persons marked from early life with variola, dying from a subsequent attack, secondary small-pox being usually dangerous. If, then, small-pox with its numberless pustules, and dangerous concomitant fever, cannot always impart permanent immunity, why should vaccination be expected to accomplish more?—being in itself more mild, and limited in its action. Other infectious diseases, as scarlatina, pertussis, rubeola, &c., which usually occur but once in the same individual, although frequently exposed thereto, will under particular circumstances recur. What peculiar change may take place in one attack of either of these diseases, to prevent a recurrence, and its "*modus operandi*" on the animal economy, I leave to pathologists and physiologists to determine. I believe much to be effected by the specific irritative fever accompanying it; so with vaccinia,—a due quantum of febrile action should be induced by a plurality of vesicles; and not to trust, as is often done, to a single one to impart permanent security; for I have generally found the modification of subsequent variola to be in the inverse ratio of the severity of the previous vaccination—viz, that where it occurs in persons having four or six vaccine-cicatrices, it is much more modified (and not fatal) than where one or two scars only can be found. Vaccination, to be *ef*-ficient, and impart permanent security, must be *suf*-ficient. Some peculiar constitutions are more amenable to certain medicines than others. Thus may ptyalism be caused in one individual by a grain or two of calomel; but the majority of persons require more to produce the same action. Who can prognosticate how small a portion of mercury will invariably prove a salivating dose? Now, vaccine-lymph should be administered in a saturating dose, (if I may be allowed the term,) to impart more than temporary protection.

I am aware that some of my medical brethren argue that one atom of certain animal poisons will by inoculation freely infect the system; this may be the case with variolous pus, inducing innumerable pustules; so likewise, one syphilitic wound may, in due time, cause extensive rupia, eczema, &c., but the analogy is lost with regard to vaccine lymph, being in itself so much more limited in its action, producing only a vesicle, the seat of puncture, and not a general eruption. The object, then, with so mild an agent, should be to make as strong an impression upon the constitution as possible, to neutralise the inherent predisposition to receive small-pox; and I believe the duration of its prophylactic power much to depend upon a due amount of pyrexia accompanying the progress of the vaccine vesicle, and especially during the existence of the areola, and to be of greater intensity with half a dozen vesicles than with one only. This was the opinion of my late father, and published by him as far back as the year 1812; and the more I see of vaccine practice, the more I am convinced of the accuracy of the observation. I have seen very few persons bearing *five* or *six* distinct cicatrices, who have subsequently taken variola; all, however, *highly modified*, and in *no one* instance terminating *fatally*, the modification being generally in proportion to the number of vesicles that had been employed; on the other hand, many cases with *one* or *two* well-defined cicatrices, more or less severe, some *un*-modified, and occasionally *fatal*. These last are the cases where, to inoculate with small-pox, pus would prove not only dangerous to themselves, but likely to disseminate a loathsome and destructive disease, far and wide, for in themselves the variola would not in all probability assume a papular form, not contagious as reported by Cazenave, in France, and by Dr. Gregory, before the Society; but, in the vesicular or pustular form, more or less modified, and in proportion infectious; a papular appearance being only likely to occur in those who, being better protected, might have taken the disease by exposure in a similar form. I trust the government of this country (as well as of Austria) will not be induced to repeal the existing law, prohibiting small-pox inoculation, nor retract the offer of a temporary residence in Newgate upon any person who shall infringe that law, and thereby introduce so direful a pest amongst her Majesty's subjects; whether a law would be beneficial to render vaccination compulsory is a matter for consideration.

I do not consider any person to have been satisfactorily or effectually vaccinated, or likely to continue permanently safe, who can show but a single cicatrix; nor have I, out of more than forty thousand patients whom I have vaccinated, ever certified a case on the vaccine register as perfect and satisfactory with a single vesicle, but recommend re-vaccination at a future period, not small-pox inoculation.

I agree with Dr. Basham's remark, that "sufficient stress is not laid upon the distinction which we thought ought to be drawn between perfect and imperfect vaccination: many of the latter, he believed, were those who were affected with variola." And also in his remarks respecting the vaccine cicatrices, many erroneous opinions might be avoided if more attention were bestowed upon the difference that exists between the good scar and the spurious; also between the genuine vesicle and the spurious; an experienced eye may usually detect the distinction.

In the report read by Dr. Gregory before the Society, of 2854 patients admitted into the hospital from 1844 to 1850 inclusive, it appears that of the *unprotected more than one-third died*—viz., $\frac{504}{1354}$; whereas of the *vaccinated* (*however partially*) only *one in twenty*, or $\frac{75}{1500}$. These figures do not agree with the table appended to his letter, published in the same number of THE LANCET, nor does one column tally with another. It should be borne in mind that this mortality took place in the old hospital at King's-cross, where of late years it has been notorious that many died of hospital miasm rather than variola, *per se*, and of the vaccinated, amongst *adults only*. It is to be hoped that the mortality may in future be greatly diminished by modern improvements in the new building and the salubrious air of Highgate.

I am much surprised to learn from Dr. Gregory, that "he had never seen modified small-pox in the young, either in private or public practice; neither had he read of it in books, or heard of its occurrence abroad; it was only to be found in the adult." Dr. Snow stated having attended a case under three years of age. It has fallen to my lot to have seen many dozens of cases of modified variola in children, after what I have denominated *partial vaccination*, showing that such will not prove prophylactic for "the period of fifteen years." Space will not allow me to quote numerous cases, but I must content myself with the following; and referring to a letter from Dr. Gregory to myself, respecting "E. I. P., aged twelve years, who died in the hospital, Dec. 19, 1850, of confluent variola; no cicatrix perceptible," (reported to have been vaccinated by me, but the name cannot be found on the register.) On visiting the family, I saw a brother of the deceased, *under three years* of age, having *one cicatrix*, with twenty or thirty variolous *pustules*; also a sister, aged sixteen years and a half, *with three distinct cicatrices on each arm*, with about a dozen *papulæ*. On the other hand, many instances might be added of longer security, where vaccinia had been employed in *greater quantity and intensity*, as in my *propriâ personâ*, vaccinated in each arm in 1811, and frequently exposed to the contagion of variola.

I consider re-vaccination to be of great importance, for when persons have been freely vaccinated in infancy, the second insertion, even after an interval of twenty or thirty or more years, usually produces but slight action, progressing only for a few days, thereby proving that some prophylactic power still exists; whereas, after partial vaccination, the effect is more abundant, and frequently as regular, as in primitive vaccinia, with areolæ on the eighth or tenth day. It is reasonable to infer, that if the latter cases are capable of receiving vaccinia a second time, with such intensity, they might sooner or later take variola; and that such re-vaccination may put them on an equality with those vaccinated for the first time. I would mention, that since the 1st of January last I have inspected 108 cases of re-vaccination, (of all ages, but mostly adults;) of thirty-seven, bearing from one to three cicatrices, much effect was produced in thirty, and slight effect in seven; whereas of seventy-one, with from three to six cicatrices, much effect in five, and slight effect in sixty-six,—showing the value of quantity and intensity, in primitive vaccination, to effect protection for a lengthened period. Some inoculated persons, and others who have had "natural" small-pox, are as susceptible of vaccinia as those are of re-vaccination who previously had been but partially vaccinated.

Much might be said respecting the quality of the lymph to be employed, the period of taking it, manner of preserving it, mode of applying it, &c. These are all points of interest, but which it is not my present intention to enter upon, nor will space permit. I believe that, with due precaution, vaccination is capable of producing as much security without the danger, as small-pox inoculation; not forgetting the valuable opinion of Chomel, "that we cannot fairly exact more from vaccination than from the small-pox itself."

Should any of the foregoing remarks induce some of my brother officers in the vaccine-field to wield their weapons more freely, (not destructively,) my object will be fully gained, and much loss of life prevented.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

April, 1851.—Mr. Hodgson, President.

After the admission of several new Fellows, Dr. C. J. B. Williams moved, that a vote of thanks be passed to the late secretary, Mr. Charles Hawkins. He eulogized that gentleman's labours in the alterations and improvements in the Society's house, and paid a high compliment to his general character as secretary; this having been seconded, it was carried unanimously.

A case was afterwards read from the pen of Mr. Drummond, of

Extensive Caries of the Bones of the Head, and Removal thereof.

The patient was a sailor, and, whilst in Africa, met with a severe fall on his head, and received an extensive scalp wound. It was not supposed at the time that the bone was injured. Some time afterwards, the bone was found to be denuded; there were formations of matter in the part; he became liable to frequent attacks of erysipelas, which soon required generous diet, malt liquors, &c. Both tables of the bones were sometimes attacked at the same time, at others only one table; necrosis and caries were going on at the same time. The disease was still progressing, and there was no efforts whatever made at reparation; and now most of the bones of the head were involved, and portions of most of them had exfoliated, but the man was still in robust health, and there was no mental disease.

In the discussion which followed, some cases in point were detailed. Thus, the case of a lunatic was mentioned, who placed the back of his head on a fire, and burned off the scalp. A large portion of the skull, of the size of the bottom of a basin, exfoliated; but the man lived several years afterwards. There was hernia cerebri. There had been no attempt at reparation by bone, but a thick membrane was found attached firmly to the dura mater. The mind of the patient had been subsequently calmer and more collected. On pressing the brain through the opening, a feeling of syncope was induced. A case was related in which large and small fragments of the bones of the cranium exfoliated, as the result of scrofulous lupus. The dura mater was exposed, and the brain could be seen to pulsate. The patient recovered, and remained well for twenty years, when he was attacked by hemiplegia and difficulty of passing urine. He died from ramollissement of the brain. A tumour of the prostate was found obstructing the urethra. The openings left by the exfoliated bone were partially filled up by bone and membrane. In another case, a man aged sixty, having been admitted into the hospital, died from fracture of the leg, a large cicatrix was found on his scalp, with depression. Forty-five years before, he had met with an accident, and a portion of the bones of the cranium had come away. The space was now filled partly with bone, partly with membrane. It was agreed that the mode in which reparation of bone in the head took place was a wise provision of nature to prevent the ill effects of a complete osseous reparation.

A communication was afterwards read from Mr. John Hilton, on

Case of Necrosis of the Bones of the Cranium, and Removal of Large Portions thereof. By John Drummond, Esq., F.R.M.C.S.

In 1845, a seaman, belonging to H.M.S. *Mutine*, fell down some stone steps at Siera Leone, receiving a contused wound of the scalp, for which he was admitted into the Royal Naval Hospital at Plymouth, in October of the same year. The bone, which was not supposed to have been injured, was then found to be denuded of its pericranium to some extent, (left side of occipital.) After an attack of erysipelas, followed by numerous purulent deposits under the scalp, necrosis went on rapidly; there was oozing of pus from beneath the diseased bones, gaping of the coronal and sagittal sutures, the brain pulsating very distinctly in the spaces. In July, 1846, he was removed to Melville Naval Hospital, Chatham. During the six years he has been under observation, there have been repeated attacks of erysipelas, followed by profuse suppuration. Both tables of the bone have suffered in some places; in others only the external. About five square inches have been lost from the right side of frontal, right parietal, and squamous part of right temporal. The whole of the occipital to within a short space of the foramen magnum is deficient, with the exception of about two inches in the centre of the bone, which are now undergoing the process of separation. On the left side there has been less destruction of the bones, but extensive caries is going on there, and fœtid pus is being discharged from several openings. At no point does there appear to have been any tendency to reproduction of bone or arrest of the disease.

Dr. Webster said the case described, although highly interesting, was not without parallel examples; and he would mention a somewhat similar instance, which appeared, in his estimation, even more extraordinary than the one related by the author. It occurred at Bethlem Hospital about eighteen years ago, and the following were the chief features. The patient was a criminal lunatic, very violent, and of suicidal tendencies. One day, during the temporary absence of a keeper, this inmate contrived to lay his head upon an open fire, then burning briskly, and before he could be removed, the hairy scalp and soft integuments were much injured, one ear being almost destroyed, or, to employ the term used by an attendant, the parts looked like "a singed sheep's head." Serious symptoms ensued, but through the able treatment of Mr. Lawrence, life was saved, although the entire skull-cap exfoliated, about the size of a moderate basin, some months afterwards. Notwithstanding this occurred in 1833, the lunatic lived till September, 1841—that is, nearly nine years, and at his death he suffered from a hernia cerebri, the bulk of a hen's egg, which consisted principally of the posterior part of the left lobe. At the post-mortem examination, no bony deposits were found where the skull had exfoliated, the vacuum being filled up by a thick, dense, tough, and very firm structure, in which the dura mater and external cicatrix were inseparably blended. As the preparation is at present in the museum of St. Bartholomew's Hospital, doubtless any Fellow may see it if desirous; and he (Dr. Webster) would now state as a curious fact, that previous to the accident, although the patient, when excited, often butted his head against the wall, if not carefully watched, he never made any attempt of the kind subsequently, and even seemed more tranquil than before. It should be likewise added, hat once or twice when an accidental pressure happened to have been made on the parts uncovered by bone, the poor man became insensible; however, to avoid such serious consequences, a strong cap was worn for protection. Another example of severe injury to the head, and the loss of some portion of the skull-cap, without producing death, Dr. Webster said, might also be related; and he then alluded to the remarkable case recently published in the *American Journal of Medical Sciences*, in which an iron bar, three feet seven inches long, and weighing thirteen pounds and a quarter, passed through the anterior part of the head of an engineer, carrying away a portion of the os frontis, but without causing death; the patient having been seen by several medical practitioners at Boston, sixteen months after the accident. These instances, as likewise others on record, and especially the instructive case communicated to the Society that evening, demonstrated how an individual's life might be preserved, without the mental faculties being much impaired, although the skull-cap and brain itself was seriously injured; whilst in other persons very little morbid alteration of structure in the contents of the head, or any slight injury to the cranium, would produce severe physical disease, and even ultimate death to the sufferer.

Mr. **Shaw** exhibited two specimens of extensive loss of the entire thickness of the calvarium, the one from scrofulous lupus, the other from fracture, to show that the vacant spaces have been filled up partly by membrane, but in greatest proportion by newly formed bone, smooth on its under surface. In the first case, the patient was fifty years of age when the necrosis took place; and he was under Mr. Shaw's observation during that time, and for twenty years after the disease ceased; but no cerebral symptoms occurred till within a short period before his death, when he had hemiplegia from ramollissement of the right hemisphere of the brain near the corpus striatum, and had likewise retention of urine, from a fibrous tumour contained within distinct walls in the left lobe of the prostate gland, terminating in peritonitis and death. In the second case, the patient, about sixty years of age, was a robust healthy-looking man, who died from the effects of a compound fracture of the bones of the leg. Having been questioned about the large scar, with depression of the skull visible on the right side of his head, he stated, that forty-five years before he had had a severe fracture of the skull, from which many large pieces had been removed by the surgeon.

The **President** remarked that the process of reparation was different in cases of necrosis in the bones of the skull, than when the disease attacked the long bones. There was only a slight deposit of bony matter, which might be regarded in the light of a wise provision of nature to obviate any ill effects that might result from pressure. When a large portion of the skull was removed, the opening was not filled by bony matter, but with fibro-cartilage, with a small portion of osseous matter in parts of it, whilst the edges of the bones were smoothed and bevelled down to prevent pressure. This mode of reparation was, however, not confined to the bones of the cranium; we saw it in the patellæ and in the vertebræ; in the former of which, with scarcely one exception, no bone was formed, and in the latter scarcely any. The cases brought before the Society were interesting, as illustrative of the manner in which loss of bone in the skull was repaired.

Observations on the Treatment of Anasarca, or General Dropsy, by Puncturing the Legs. By John Hilton, Esq., F.R.S., Surgeon to Guy's Hospital.

The author's object, in bringing forward this communication, is to suggest the more frequent employment of puncturing the legs in appropriate cases of anasarca depending upon visceral disease. After referring to the use of this remedy, without due precautions being observed, and the very probable mischief likely to supervene in such a case, the author states that his experience has convinced him of the great relief which anasarcous patients manifest when the fluid is allowed to escape from the areolar tissue of the body through artificial openings; and that when the operation has been done with caution and due consideration, it is not usually followed by unfavourable consequences. The instrument recommended to be employed (of which there was a drawing sent round) may be described as a very narrow, sharp-pointed lancet. Two, or sometimes four, punctures should be made by it in the outer side of the thigh, by passing it obliquely through the subcutaneous areolar tissue, so as to reach, but not to wound, the fascia covering the muscles; the limb, or limbs, if both have been punctured, to be immediately wrapped separately in warm blankets; these to be renewed often enough to prevent the limb becoming cold or chilled by the accumulation of the exuded fluid around it. Should the delicacy of the patient's skin, or any apprehension regarding the chemical character of the effused fluid, lead to the supposition or probability that the skin might become excoriated by the fluid running over it, then it is advisable to use capillary conductors in the form of worsted threads, so arranged as to pass over the punctures, and thence into proper receptacles, so as to keep the limb dry. After alluding to the continuity of the areolar tissue of the whole body, and expressing his belief that the infiltrated areolar tissue within the body, as well as that of the exterior, may be drained effectually by making punctures in the lower extremities, the paper explains the method of relief which is obtained—viz., that by freeing the subcutaneous areolar tissue of fluid, room or space is given for the external veins to become distended with blood, so as to relieve internal visceral congestion, and prevent effusions of fluid into the serous membranes, which produce great distress and death. The author states his conviction, that such fatal serous effusions are mainly the result of a passive congestion in the internal veins, and not of an inflammatory condition of the serous membranes; and that the surest method of preventing the occurrence of internal dropsy is to allow the venous congestion to take place upon the exterior of the body, where it produces a dropsical state of the subcutaneous tissue, and from which the fluid may be removed by artificial punctures through the skin. One of the chief reasons adduced for believing that such dropsies, whether within the body, or upon the exterior, are the effect simply of venous congestion, is, that they may be imitated, after death, by injecting any efferent bloodvessel with water, and intercepting its return through the efferent bloodvessel, when escape of water occurs through the walls of the blood-tubes, and induces a dropsy of the parts. Other observations were made, explaining the *rationale* of the relief afforded to the heart, lungs, brain, and spinal marrow, by puncturing the legs in cases of anasarca. Towards the conclusion of the paper, the author says, that having seen, in very numerous instances, extreme relief given to anasarcous patients by puncturing the legs in the way described, and only in a few examples any important inconvenience and still more rarely, if proper precautions have been taken, any danger, from it, except as a part of the patient's general condition, he feels himself justified, from personal experience, in recommanding its more frequent adoption, in appropriate cases, than usually obtains in practice.

Dr. C. J. B. Williams said that the paper was interesting, and he fully concurred with the author as to the advantages which resulted from puncturing the leg in advanced cases of anasarca. He was inclined, however, to doubt whether the view which the author gave of the mode of action of this proceeding was the correct one; he thought it too mechanical. We did not get extensive effusion of fluid apart from inflammation and alteration in the condition of the blood, with retention of excrementitious matter, and a more watery condition of that fluid. When organic disease existed for a long time not only was the circulation affected, but the secreting organs became implicated; effusion then took place, and the functions became oppressed. His attention had been much directed to this matter, and he had found in all instances of dropsy where there was much effusion of serum either in the legs or abdomen, that the fluid abounded in urea, and in some few instances contained biliary matter. In the proportion in which these abounded, was the relief afforded by puncturing. The serum in dropsy had often an urinous odour. This was chiefly in cases of renal disease, but it appeared to him that dropsy was usually ultimately connected with some functional or organic renal disease. The punctures then, he thought, afforded relief, not only by getting rid of the superfluous serum, but by purifying the blood, and removing from it those materials which were not removed by the secretory organs.

Mr. B. Cooper saw little difference in opinion between the last speaker and Mr. Hilton. He had no doubt that Mr. Hilton admitted that the fluid removed was not pure serum, but contained excrementitious matter.

Mr. Hilton had not intended to have said anything on the present occasion, or to add to what he had advanced in his communication; he could see no objection to the views advanced by Dr. Williams; they did not interfere with the advantages to be derived. He admitted that the blood in these cases soon became diseased, and though at first the relief might be mechanical only, the puncturing might also afford advantages in the manner mentioned by Dr. Williams.

Dr. Black concurred with the author of the paper in thinking that some of the symptoms incidental to anasarcous effusions, might receive an explanation on the ground of mechanical pressure, but he thought at the same time that it would be straining too far that pathological doctrine, if we should attempt to refer to it some of the principal affections of remote organs, remote, that is, in the order in which they would become affected, if we admitted the author's general view of the occurrence to be correct. In expressing this opinion, it would be seen that he coincided in the qualification with which Dr. Williams had received the author's views, and he offered, in illustration of this, those important affections of the brain so frequent in the class of albuminous dropsies, whether acute or chronic. In the acute dropsies, such as those consequent on the exanthematous fevers, a convulsion or a tendency to coma was of frequent occurrence, but this symptom was not expected or watched for in proportion to the amount of the general effusion first affecting the most dependent parts, and ultimately by continuity of tissue reaching to and compressing the brain; such affections as these often took place at a very early period, when the general effusion was not of such an amount as to warrant us in taking such a view of its origin; and, if we compared the chronic class of albuminous dropsies with those deriving their source from diseases of the heart, we should find that affections of the brain, such as those he had already referred to, were more frequent in the former class, though the anasarcous effusions might not be comparable in amount with those proceeding from heart disease. Dr. Black questioned the accuracy of one of the author's statements in relation to the effects produced by forcing fluid into the pulmonary artery—he questioned it, not on his own judgment or experience, but on that of one who would always be deemed one of the first among the British physiologists, and who had been described by Haller as "vir in experiendo solertissimus," the author of the Hæmastatics. The effect of such an experiment is not perhaps what would have been anticipated, but this very circumstance made Hales more careful in performing it, and repeating it, though always with the same result, which was, that the injected fluid was found to flow freely through the bronchial respiratory tubes, and escape by the trachea.

Dr. Snow said that the benefit derived from the punctures in the legs must arise from a mechanical action in the first instance at least. The serum which flowed must be charged with only so much urea or other impurities as happened to be in it, when effused into the cellular tissue, for there was no structure to effect any such separation of materials as could constitute an excretion. The blood could therefore not be purified by these punctures, but the general distention of the vascular system would be relieved, and the congestion of the kidneys and other internal organs diminished; and if the kidneys were not too far altered in structure, they would be able to perform their functions in a more efficient manner, and thus cause the purification of the blood. He believed it must have been in cases in which the kidneys were not far advanced in disease that Mr. Hilton had observed the removal of drowsiness, and the general improvement of the patient.

An Account of a Case of Fracture and Distortion of the Pelvis, combined with an unusual form of Dislocation of the Femur. By Charles Hewitt Moore, Esq.

James Thomas Horsfield, a stone-sawyer, had been crushed several years before death beneath a piece of timber. At the age of sixty he died of disease of the heart and kidneys, under the care of Dr. Seth Thompson, in the Middlesex Hospital. In addition to the immediately fatal disease, the bones were found thickened, heavy, coarse, rugged, and porous; the intervertebral substances composed of calcareous matter and soft cartilage, alternating; and the arteries almost everywhere, and the valves of the heart, covered with calcareous matter. The left os innominatum was found broken across the acetabulum, the left just in front of it. The ischio-pubal ramus was broken on both sides. None of the fractures had united, though considerable masses of callus had been furnished by the reparative process. The left bone remained in three fragments, corresponding almost precisely with its original segments; the right was broken in two. The head of the left femur had been driven between the fragments of os innominatum fairly into the pelvis, and lay only half an inch below the promontory of the sacrum. Its trochanter fitted into a shallow excavation which it had gradually worn on the outside of the ilium, and the joint was constituted by the thin edge of the ilium and the top of the shaft of the femur, close to the trochanter. A partial new socket had been formed by the expanded ends of the pubes and ischium. The body of the left ischium was displaced considerably inward, but no material change had taken place subsequently to the injury in the form of the bones on that side of the pelvis. On the right side the hip-joint was sound, and of course had been more used than the left. The shaft of the right femur, moreover, was removed farther from the centre of gravity than the left, by the whole length of its head and neck. Hence the spine, in transmitting more weight to a greater distance, curved forward and to the right in the lumbar and upper sacral regions; whilst the acetabulum, unsupported in front because of the ununited fractures of the pubes, became elevated towards the depressed spine and promontory. Partly from the inordinate pressure, and partly from some softness which disease at one time probably induced in the bones, those structures had yielded, the ilium became bent above the sacro-sciatic notch, and the lateral mass of the sacrum lost three-fourths of an inch of its natural breadth. The inlet, cavity, outlet, and sacro-sciatic notch on the right side were consequently much narrowed, and the promontory of the sacrum was only one inch and a quarter distant from the pelvic surface of the right acetabulum. The ischium was pressed inward and upward, and encroached on the pelvis and perinæum, and the symphysis pubis was thrust to the left of the mesial line. In his remarks, the author, referring to the interest of this case, in its relation, first, to midwifery, mentioned that there were three instances on record of an obstruction in the pelvis similar to that on the left side of this pelvis, but called attention to the deformity on the right side—viz., the gradual elevation of an acetabulum unsupported by a fractured pubis in front, as unprecedented. But the chief interest of the case was surgical. Months, or a year or two, after an accident to the pelvis, and when all seemed well, shortening and inversion of the thigh on the injured side would take place, together with an increasing inconvenience in the perinæum. Such symptoms would be explained by the state of the right side of this pelvis, the acetabulum and ischium being pressed up, and the former acquiring a more anterior aspect the more it was raised. On the left side the limb was shortened more than two inches at the time of the accident, and was now capable of free abduction and moderate flexion, but no extension or circumduction. After pointing out the difference between the symptoms of this accident and those of other accidents with which it might have been confounded, the author concluded with some remarks on the disease of the bones, and the remarkable fact of the precision with which the line of the fractures in the left acetabulum and right ischio-pubal ramus followed the course of the original sutures.

On the Relation of Sleep to Convulsive Affections. By Wm. Frederick Barlow, M.R.C.S.

The author began by observing, that although very interesting observations on the subject would be found scattered through medical writings, it had not hitherto received any thing approaching the attention which it merited. There were a variety of cases in which spasmodic movements were well known to be wont to surprise the sleeper, as might be proved by epilepsy, laryngismus stridulus, tetanus, asthma, cramp, the muscular contractions provoked by fractures, the startings, more or less severe and general, which almost every one must have experienced on falling into slumber, &c. Epilepsy would ensue just before, during, or immediately after sleep; sometimes it was quite restricted to that period, and in so remarkable a manner, that sleep and epilepsy might, in such a case, be held to be related as cause and effect. A broad distinction was to be made between the epilepsy of *imperfect* and *perfect* sleep; the former was, most probably, oftentimes owing to troubled dreams; whereas the latter was generally, if not always, referrible to physical irritation, centric or eccentric. The sleep, too, which followed this appalling affection, should be industriously watched, as it was very likely to merge into a coma, wherein other convulsions would occur. The author then spoke of the spasmodic actions which took place, or could be excited, in paralytic limbs during the time of slumber; this division of the subject, whereof the contribution contained some illustrations, had, though very instructive, been almost entirely neglected. The author, after mentioning some indications of treatment, passed on to the consideration of the causes of the convulsions, direct or predisposing, which happened during slumber. They might be chiefly comprised under the four heads of—

1. The state of the circulation and respiration.
2. The condition of the motor-force and muscular irritability.
3. The emotion of dreaming.
4. The withdrawal of the will.

The author entered largely into the two latter topics. Dreaming had a very ample, and not seldom unsuspected, connexion with the event of convulsions.—There was the horror of the dream, which was sometimes most intense, and there was the impression also which remained; and agitation of mind was surely never likely to be more hurtful than when the brain was congested, the irritability replenished, the passions ungoverned, the respiration unmodified, volition at rest. The *causes* of dreaming had a most wide, though in great part indirect relation to those of convulsions. Of this the paper contained illustrations. Great stress was laid on the withdrawal of the will. The fact had been abundantly and variedly proved, that, *cæteris paribus*, reflex movements, and also involuntary movements not reflex, were occasioned with a facility that was inverse to the power of volition; but it was one, how glaringly important soever, which had by no means been duly and fully applied to the solution of the nature of certain convulsions which surprised in sleep. This was it that would furnish the key of explanation to very many of them. The author then drew the attention of the Society to some observations made by him on sleeping children; to some ingenious remarks by Professor Volkmann, which tended to support his own conclusions; to some experiments of Dr. Marshall Hall; and some others which he himself had recently made on hybernant animals; and to various phenomena to be witnessed in man, animals, and insects, which, however, unlike in some respects, uniformly and emphatically concurred to show how often and how extremely a quiescent will tended to the production of spasmodic affections. Some convulsive affections of the sleeper and waker often contrasted greatly in this; in the first there could be no opposition from volition, no effort to subdue them; in the second there was, not rarely, an evident, and sometimes a successful striving of the will. The author, availing himself of an expression to be found in the "Novum Organum," proposed to call those instances, wherein there was a manifest contention between causes of action, "wrestling instances." The withdrawal of the will had an indirect relation to the convulsions of sleep, from being the cause of dreaming, the emotion of which was more perilous, speaking generally, than that of the waking state, on account of its being free from antagonism, for the dreamer was unable to reason on his delusion and so dispel it. The author dwelt finally on those convulsive affections which were bénignly influencéd by sleep, their temporary cure, and so contrasted as much as possible with those he had already discussed. The convulsive affections might be separated, as to kind, by a broad line of demarcation drawn between them by sleep. How often did it happen, in perplexing instances, that the influence of sleep directed the diagnosis! Emotion took much part in all those convulsive affections which were wont to subside when the mind was at rest. The reason of their being thus potently affected was easily readable in their history. The author instanced certain motor local nervous affectians, paralysis agitans, mercurial erethism, and chorea, as being wonderfully under the sway of slumber, and concluded that some convulsive motions which had been observed in these diseases during the sleeping period, were owing to mental agitation, and formed no exception to that general law whereby the tranquillizing effects of sleep upon them were so correctly expressed. A considerable portion of the paper was, owing to its extent, left necessarily unread.

Dr. Mayo said, the very clever paper which they had just heard, related to a subject so full of interesting topics, that it tempted the author into a descriptive rather than an inductive consideration of them. In the latter part of it he had in some degree obviated a tendency to undervalue the blessings of sleep, which was observable in the first part. There was no doubt that in certain states of certain disorders, sleep led to evil, not by producing it, so much as by preventing efforts which would obviate it; as in the accumulation of mucus, and the dryness of the fauces in bronchitis, and the accidents that in his (Dr. Mayo's) own experience had happened to the epileptic for want of assistance under paroxysms during sleep. In regard to the accumulation of power under sleep, which the author seemed to consider unfavourable to spasmodic disease, he would call his attention to the fact, that such disorders were, in a great measure, instances of the presence of action without power; and that sleep as a restoring power, should have a beneficial tendency in regard to them, according to his own reasoning have overlooked the fact, that in insanity, another disease of that kind, the absence of sleep for four or five days and nights is ordinarily fatal.

Dr. Webster coincided in opinion with Dr. Mayo, respecting the great utility of sleep in the amelioration of insanity; it was always of the highest importance in attacks of that malady. The same result was equally advantageous in delirium tremens, as every practitioner knew; indeed, to produce balmy sleep was most essential in its management. Dr. Webster, however, dissented from the doctrine now laid down, that a case of mania would end in death, if the patient did not sleep during two or three days consecutively. This was contrary to his own experience; and as any observation on such subjects by Dr. Mayo would carry much weight, he trusted there was some misunderstanding upon the point, and would therefore wish to be set right, if labouring under any mistake in regard to the remark made by that gentleman.

Dr. Mayo explained, that he meant entire absence of sleep during the period mentioned; a very small modicum might be sufficient to act somewhat as a restorative.

Dr. J. A. Wilson said that the paper was suggestive in the highest degree, but he could not help regretting what appeared to him to be an omission in it; the author had attended too exclusively to the nervous influence and the mechanical state of the vessels, instead of inquiring into the contents of the vessels. He had considered that congestion was the cause of sleep; but he (Dr. Wilson) thought the red face, fiery eyes, and other symptoms of congestion, were suggestive of anything but sleep. His own (Dr. Wilson's) opinion was more in favour of anæmia being the cause of sleep; and he particularly well recollected the case of a man in St. George's Hospital, who was so thin that he was almost a living skeleton; he was the subject of diuresis, making large quantities of limpid water, twelve, fourteen, and sixteen pints daily, of the specific gravity of 1002°. This man eventually died of phthisis, and he was always asleep. Dr. Wilson then referred at some length to a paper which he had published upwards of twenty years since, in which he suggested that the periodicity of sleep might possibly have to do with the large quantity of carbonic acid gas which was periodically accumulated in the system, and he referred to suicide by the inhalation of carbonic acid gas as practised by the French; and more particularly to the narrative of a Frenchman who had fastened himself in a room with a carbonic acid stove, and wrote a history of his sensations as long as consciousness lasted. At first he felt strong and vigorous, but he soon got confused in mind, and left off his narrative with an unfinished word. He (Dr. W.) then made some general remarks on the influence of the condition of the blood in the production of spasm, and regarded this state as the opposite one to that of sleep.

Dr. Heale questioned whether carbonic acid acted as a sedative in the manner suggested, and related an experiment, in which he attempted to kill a cat by confining it in an atmosphere charged with carbonic acid gas. The spasms produced were so frightful, that he killed the animal with chloroform. He then made some general remarks on spasm, and its causes.

Mr. Barlow replied to the observations of Dr. Mayo and Dr. Wilson. Dr. Mayo had remarked on his not having alluded to the subject of insanity; he had only to say that his paper was entitled, not, On the relation of sleep to insanity, but, On the relation of sleep to convulsive affections. He had to thank Dr. Wilson for his manner of speaking of the importance of the subject. Dr. Wilson had remarked that no sufficient allusion had been made to the condition of the blood. He (Mr. Barlow) in a part of the paper not read to the Society, wherein he had spoken of the causes of dreaming, had referred as far as his knowledge permitted, to the effects resulting from changes of that fluid; but he did not doubt that Dr. Wilson, who was well known to have devoted much attention to the blood, would far more fully have observed upon its state, had the subject then before the Society been introduced by that physician. Mr. Barlow concluded by thanking the Society for the long and patient attention given to his communication.

MEDICAL SOCIETY OF LONDON.

April, 1851.—Dr. Murphy, President.

REMARKABLE CORRELATION OF THE VALVES OF THE AORTA, ETC.

Dr. Crisp exhibited a morbid specimen, taken from an old lady, aged eighty-two, who had died from dry gangrene of the foot. The aortic valves were found to be stiff, dry, and to stand out in such a way that their convex edges were in contact. There was little bony deposit, but the arteries were impregnated with fat. The veins were healthy. Along the course of the posterior tibial artery were found several substances in sacs, surrounded by a cyst. Under the microscope these bodies were found to consist of lymph and blood corpuscles. Whilst on his legs, he might make an observation on the employment of

KOUSSO IN CASES OF TAPE-WORM.

He had lately given this medicine in two cases of children, one of the patients being six, the other twelve years of age. The younger ones had on several occasions passed joints of the tape-worm, but in this instance the Kousso did no good, though three doses of it were given at intervals of three days. In the other case, the worm, with what was supposed to be the head, was voided. This supposed head had been examined under the microscope by Mr. Quekett, and found not to be the head. This was the fifth case in which this had occurred. These facts showed, that though Kousso was perhaps the best remedy we had for tæni, it was not so effectual as some had supposed.

Mr. Chippendale said that in many of the published cases the head was not said to have come away, but a narrow portion of the worm near the head.

Dr. Crisp said that in the majority of published cases it was said that the head had come away.

Dr. Routh considered that the explanation of these cases consisted in the fact, that there were different kinds of tæni, and that different kinds of medicines were required for their removal.

Dr. Crisp said that only two varieties were known in this country; but the tænia lata was so rare, that out of ten cases which had fallen under his own notice, one only was of that kind.

Mr. Harrison mentioned a case in which a lady had been in the habit of taking turpentine for five years without any favourable result.

PRISON DISCIPLINE.

Dr. Forbes Winslow commenced by observing, that the great problems of crime and prison discipline were occupying much public and legislative attention. They were themes which kings, eminent statesmen, renowned philanthropists, and great philosophers—men whose names shed an unfading lustre on the epoch in which they flourished, have not thought unworthy of their study and speculation. He (Dr. Winslow) thought these subjects had a special and peculiar claim upon the members of a liberal and enlightened profession. As citizens of the state, the members of their profession, in common with every other thinking and educated section of the community, were much interested in the political, social, and moral condition of the people. But, apart altogether from their position as citizens, from their education, habits of thought, and specialty of instruction;—as philosophers, trained by education to a course of rigid induction and patient reflection;—as metaphysicians, conversant with the healthy and morbid phenomena of the human mind:—as physiologists, fully competent to appreciate the condition of man, not merely as a material organization, but a complex organism, combining in mysterious union matter and spirit, and adapted for high and noble purposes; were they not, he asked, better fitted than any other class, to grapple with the abstruse points involved in a successful elucidation of the question under discussion? They were to consider man in his social character, surrounded by good and evil influences, urging him on in a career either of virtue or vice; they had to view their fellow-creatures, not only in their physical aspect, but in their mental and moral relationship to society; to trace the first impulses to crime, the first yearnings towards vice; to well weigh the effect of certain organizations, certain physical and moral agents, upon the mind, in originating, sustaining, and directing criminal and vicious inclinations; and subsequently, it was their duty to estimate the amount of human suffering compatible with the due maintenance of the mental and physical health. Were they not (Dr. Winslow asked) entitled to be consulted in matters so grave and important? The medical profession should show to the executive of this country a willingness and competency to enter the arena and to discuss with the statesmen and political economist the subject of prison discipline. Crime is said truly to have its primary root in the natural corruption of the human heart, and without divine agency vain, indeed, would be all human efforts to eradicate the first great cause of evil. It was, however, within the scope of human power to remove temptation to crime, to discourage its commission by judicious punishment, to attack its sources and bulwarks, and by reformative discipline and religious instruction to open a road to those higher and holier influences which can alone change the heart, and assure the permanence of morality. On the point of statistics it was difficult to give any accurate information. The extent of the moral disease could not be estimated. Its magnitude defied all the efforts of the statician. It was generally maintained that only a fractional portion of the offences committed were brought to justice, and that a large amount of concealed and unpunished offences eluded the hands of justice. After dwelling upon this point, Dr. Winslow observed, that, taking the last ten years, the following was the number of "committals" and "summary convictions:"—committals 306,900; summary convictions, 597,600. To show the amount of depraving, demoralizing, criminal, and vicious influences at work in the metropolis alone, Dr. Winslow observed that the subjoined statement had been drawn up from official documents, by persons whose veracity could be relied upon:—children trained to crime, 16,000; receivers of stolen goods, 5000; gamblers by profession, 15,000; beggars, 25,000; thieves, &c., 50,000; drunkards, 30,000; habitual gin-drinkers, 180,000; persons subsisting on profligacy, 150,000. To give some idea of the importance of the subject, Dr. Winslow stated that Mr. Neison, the actuary, had calculated, supposing the ratio of crime as it existed in 1843 to extend over the period, that in 1883, 1,473,840 males above twenty years, (being about one-fourth of the male population at that age,) will have been in prison at some time during the forty years. Dr. Winslow then entered into a history of the legislation on the subject of prison reform, commencing from 1775 to 1840, when the model prison at Pentonville was built, and 1848, when the Portland prison was erected. He thought that, as rate payers, they ought to be acquainted with the cost per cell of some of the recently built gaols—Millbank cost half a million sterling—Pentonville cost £85,000:—Pentonville prison cost £162 per cell; Chelmsford, £300; Reading, £200; Birmingham, £120; Leeds, £132; Aylesbury, £153; Winchester, £156; Wakefield, 125; York Castle, £1200. There were four different systems of prison discipline. 1. Old associated system. 2. Mixed or classified system.

3. Separate system. 4. Silent system. Before entering upon a discussion of the old associated system, Dr. Winslow referred to the law which was supposed to regulate the intercourse of individuals—viz, that when persons whose prominent actions have been developed by the same vital impulse are brought into union, the vital element of their respective actions will be increased in intensity by their intercourse. Under the associated system of treatment the prisons were dens of eruption, iniquity, and vice; schools of crime instead of "hospitals for moral diseases." Every system of debauchery, roguery, and refined vice was practised. After entering at length into this part of the subject, and illustrating it by examples, Dr. Winslow observed, that if the law had a right to punish, the state had no right to corrupt. Where unrestricted, unreserved association prevailed among prisoners, such corruption took place, not as an accidental occurrence, but as a positive, direct, and necessary result. The associated system was said to be most appallingly destructive to the morals of the juvenile criminals. To meet this great evil a system of classification was adopted, but without success. Dr. Winslow entered at length into a history of the amelioration of the criminal code, and said unceasing efforts had been made to adapt the criminal code to the spirit of the age, by infusing into penal legislation benevolent and enlightened views of crime and prison discipline. All undue severity was declared to be in opposition to the spirit of the constitutional law. After citing Bracton, Blackstone, Beccaria, and Buxton on this point, Dr. Winslow repudiated the idea of treating crime and criminals with undue leniency. The law should be merciful both to the public as well as to the prisoner. The penal code should guarantee two things; the almost certain detection of crime, and the absolute and speedy certainty of its punishment. Punishment must be reformatory as well as penal. Mere naked correction hardens the heart, and does nothing to lessen the amount of crime, except by exciting a feeeling of terror. The great objects of penal legislation and punishment was the prevention of crime. Directly punishment ceased to be preventive and reformatory, it became vindictive and unjust. A class of prisoners was referred to who were hopelessly incorrigible and irreclaimable;—their moral sense was utterly perverted and stultified;—they constituted cases of *moral anæsthesia*. Such men exhibited only the animal instincts, and recognised no distinction between right and wrong—*meum* and *tuum*. No amount of punishment, no degree of kindness, could make any impression on their heads or hearts. Dr. W. gave some account of the introduction of the separate, solitary, and silent systems in America, and afterwards in this country, France, Belgium, and Prussia, &c.; and, after referring to the subject of prison discipline generally, gave, as the result of the most careful examination of official parliamentary returns, the following important facts in reference to the influence of prisons on mortality, and the general and specific restoration of disease.

Prison Mortality.—The known registered prison mortality is about 19 in a 1000 cases. A number of prisoners are yearly discharged, said to be under the influence of "incurable diseases," and calculating one-third of these cases to die, the prison mortality will be at the rate of $23\frac{4}{5}$ per 1000.

General Mortality—In the metropolis the annual mortality, between the ages of fifteen and seventeen, is $\frac{3}{10}$ per 1000. The mortality varies in different prisons. At Springfield, the mortality is $\frac{3}{10}$ per 100; whilst at Reading, it is estimated at 41 per 1000 cases. Taking the two principal prisons, the mortality is as follows:—Pentonville, $13\frac{3}{4}$ per 1000; Milbank, $18\frac{1}{2}$ ditto.

Specific Mortality.—It has been computed that in the Metropolis the mortality is—Consumption, $4\frac{3}{10}$ per 1000; scrofulous diseases, $\frac{3}{100}$ ditto. In prisons—consumption, $13\frac{1}{4}$ per 1000; scrofulous diseases, $2\frac{8}{10}$ ditto. During the first thousand admissions into Pentonville prison, 11 died of consumption, and 14 prisoners were pardoned on that ground, which would make the ratio $2\frac{1}{2}$ per cent. It should be borne in mind that at Pentonville the prisoners are picked and selected, and that none are admitted to its walls who are not in the best mental and bodily health. If they are not in a condition to undergo the kind of treatment to which they are exposed, they are rejected by the medical officers. We now proceed to the subject of insanity.

In August, 1844,* the number of pauper lunatics and idiots in England was ascertained to be:—Males, 7870; females, 9485; total, 17,355. Of these 390 (220 females, 170 males,) or 2·25 per cent., were under 16 years of age, leaving 7770 males, 9265 females, above 16 years of age. Now, the estimated population of England at that time (July 1, 1844) was—males, 8,097,000; females, 8,478,000; total, 16,575,000; showing, that out of the entire male population, 0.98 in 1000 were insane or idiotic, and 1.1 out of the female population. But as insanity rarely commences before the epoch of puberty, (sixteen years of age,) we must inquire how many males and females in the population *after* that age are insane. Now, the proportion of males at sixteen years and over being 43.6 per cent. of male population, it appears that the male population of England in August, 1844, at sixteen years and above, was 3,530,300. In August, 1844, it was ascertained that there were 7770 male pauper lunatics and idiots at sixteen years and over, and the estimated male population at and above sixteen years at that date was 3,530,300; it follows that out of the entire male population at and above sixteen years, 2.2 of the labouring population are insane or idiots. To render this calculation more precise, it is desirable to ascertain how many are congenital idiots and how many demented and insane. The return (of 1844), which forms the basis of our calculation, makes the number of idiots larger than that of lunatics—male lunatics, 3902; male idiots, 3970; total 7872. But this proportion appears to us so improbable, that as we have not at hand any means of rectifying it, we prefer leaving it as it is, and count the lunatics and idiots together. It is seen that we have calculated the proportion of male *pauper* lunatics and idiots, at sixteen years and over, to the *entire* male population at that age; but it would be more precise to calculate the number from the *class* which furnish it. Now, the *class* which peoples our asylums, hospitals, and workhouses, with what are termed pauper (that is poor) lunatics, is the working class, that class which depends for its daily subsistence on its daily labour, and which has no other resource in sickness and adversity than public charity. What proportion, then, does the male working population bear to the entire male population? The classification of employments in census of 1841 enables us to answer this question satisfactorily, and shows that "the proportion of males not employed either in manual labour or some other species of active occupation was 106 in 1000, or 10·6 per cent." (Porter, p. 65.) On subtracting this number (10.6 per cent.) from 3,530,300 (3,530,300—374,211) we have (in round numbers) 3,156,000 as the adult male working population in 1844. The number of adult pauper lunatics and idiots in England in 1844 being 7770, and the number of adult working men 3,156,000, it follows (as 3,156,000 : 7770 :: 1000 : 2·46) that 2·46 (say $2\frac{1}{2}$) of adult men in 1000 are insane, or idiots. The cases of mental disorder in the Pentonville prison, between Jan. 1, 1843, and June 30, 1850, were 42 out of 3050 prisoners, being 13·7 per 1000, or 5·6 ($5\frac{3}{5}$) greater than average; at which rate (were it general) we should have, in 1851, near upon 50,000 male pauper lunatics in England alone! It must be remembered that Pentonville excludes idiots and men known to have been insane, being picked men in the prime of life, (twenty to forty.) In Portland prison the number of cases of insanity has been five in 1450 prisoners, or 3·46 (say $3\frac{1}{2}$) per 1000, being one per 1000 above the average. In Milbank—34 in 18,520 adults, or 1·8 ($1\frac{4}{5}$) per 1000; nine in 2024 juveniles, or 4·4 ($4\frac{2}{5}$) per 1000. Among the troops on home service, the cases of insanity are stated, by Dr. Balfour, to be 0·73 ($\frac{3}{4}$) per 1000 men. Dr. Winslow left it to those who advocated the separate, silent, or solitary system of prison discipline, and who maintained that they were inocuous in their effects, both on the mind and body, to explain the preceding rather startling and incontrovertible facts. He readily admitted that a large volume of evidence existed in favour of the separate system of treatment. Men of great ability, of undoubted veracity, and considerable experience, had investigated this question, and had reported strongly in its favour. They argued, that, under proper regulation, it did not deteriorate the general health or generate specific diseases. But Dr. Winslow observed, that the statistical facts upon which the preceding calculation had been made were opposed to the general evidence adduced. There was undoubtedly more than one class of prisoners whom we might *à priori* suppose would be seriously influenced by the separate or cellular system of discipline. There were many prisoners, whose health of body and mind would almost, as a matter of course, succumb under the terrible ordeal to which they were exposed. Again: many criminals entered the prison walls strongly predisposed to affections of the mind, being the children of criminals—the offspring of parents who have had crime, insanity, and idiocy in their families, for many generations. Upon another class, the rigid prison discipline, the regularity of life, the absence from excitement, the good food, the constant employment, and religious instruction, would have a tendency to calm, soothe, and tranquilize the mind, and thus avert insanity. Although he (Dr. Winslow) was of opinion that the separate system was better than any other plan that had been suggested or carried into operation, he nevertheless considered that it required most careful and vigilant watching. He thought that some modification might be introduced which would obviate the mischief both to the mind and body which the separate mode of prison discipline was supposed, and with good reason, to give origin to.

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* This year was preferred, as it presented the most complete body of evidence on the subject.

Mr. **Childs** remarked that some prisoners were of such a character, that kindness had no good result upon them. With such men as Hackett, the treatment which prisoners received at the Model Prison, where they were treated as gentlemen, did positive harm, as was proved by the names men from this prison passed by in the Colonies—namely, Penton-*villians*. He ridiculed the notion of treating prisoners as they were treated at Reading, and some other places.

Dr. **Webster** regretted that time had not permitted Dr. Winslow to bring forward all the facts collected, as the Fellows would then have an opportunity of investigating the important subjects discussed better than they could do at present. On many points, he (Dr. Webster,) agreed with the propositions enunciated, especially in regard to the effects which prison discipline produced upon the minds of criminals, as carried out in certain establishments; but he could not coincide in some of the remarks made respecting the injurious consequences observed in regard to the bodily health of convicted persons resident in gaols. In the metropolitan prisons, this was not always the case, seeing the inmates were frequently more healthy than elsewhere, the more so, considering their destitute state, and predisposition to disease previous to being committed, as they often got into a better condition than before confinement. Sickness and mortality, were, speaking generally, very rare in most metropolitan prisons, with one or two exceptions, to be noticed afterwards. Thus, in the Middlesex House of Correction, the inmates were usually very healthy, and epidemic disease seldom or never prevailed, since, out of 10,015 committals made up to a recent period, not more than six persons died, which was only one death in every 1669 prisoners. Again, at Bridewell, although situated in a densely populated neighbourhood, having Fleet-ditch on one side, and Puddle-dock on the other, notwithstanding there had been 2108 committals during the last two years, only one inmate had died, from consumption of long standing. He (Dr. Webster) might also mention, that during the cholera epidemic so prevalent in the vicinity of Bridewell, in the autumn of 1849, not a single case of that disease was met with throughout the entire establishment. Exceptions to the results just mentioned, did, however, occur; and the Penitentiary, in this respect, seemed very prominent, as sickness appeared more common amongst its inmates than in most other metropolitan prisons, which is shown by the fact, that the number of deaths, in proportion to the residents, were greater than elsewhere. Thus, out of the whole 68 deaths reported from London prisons during 1850, nearly one-third, or 22, took place at Millbank, although the total prisoners in this gaol were only about one-fifth of the number confined in the metropolis. Regarding the injurious influence of silent and solitary confinement upon the minds of prisoners, he (Dr. Webster) fully agreed with the opinions expressed by the author, and also avowed himself a decided opponent to some of the modern innovations in the treatment of prisoners. Whilst on this point, he would now appeal to the results quoted by Mr. Childs. Respecting insanity being sometimes produced by too rigid prison discipline, he might state, that during the last three years, 20 insane prisoners had been sent to Bethlem Hospital from the Penitentiary at Millbank, and 12 from Pentonville, thus making 32 lunatic patients, which was a large proportion. But the effects thus occasioned were more remarkable, when confinement was rigorously enforced, during the first fifteen months the new system was adopted, seeing fifteen persons became insane; whereas, after being limited to not more than three months' duration, only five criminals went mad. This result speaks volumes. As Dr. Winslow had, amongst other points, alluded to the calculations made by Mr. Neison, respecting the probable increase of criminals during the next forty years, he must say that it was really frightful to hear, that one out of every four persons living would become an inmate of a prison in that period. He (Dr. Webster) thought the calculation was erroneous, and that Mr. Neison confounded the number of committals with actual criminals. This peculiar feature applied especially to female prisoners at Bridewell, where nearly one-third of the amount received were re-committals; and it was also a curious fact, that many of the above offenders were natives of the south of Ireland, who came from Cork. Besides, others, having a great dislike to honest labour, were no sooner discharged than they perpetrated another offence, for which they were speedily re-imprisoned. For instance, one woman, after having been a fortnight in Bridewell, was brought back on the same day, for breaking a large square of plate-glass, in St. Paul's Churchyard; whereby she got lodging and a better supply of food than she might have otherwise obtained. An additional and peculiar fact respecting crime, especially amongst the juvenile population of London, merited record—namely, that a large proportion of the young persons sent to Bridewell were from Whitechapel and the south side of the Thames; thus showing, that certain localities are more prolific in criminals than other districts. In his (Dr. Webster's opinion, also, crime seemed to be hereditary, quite as much as even mental or bodily disease; and it could be safely asserted that a predisposition to lying, thieving, and other bad propensities, were sometimes transmitted to offspring, like gout, scrofula, or insanity. Undoubtedly, the association of children with the criminally disposed frequently did great harm; and if their progenitors were likewise badly conducted individuals, the example thus set to susceptible minds would prove most injurious. Reformed criminals, like reclaimed drunkards, were rare phenomena; but he (Dr. Webster,) believed much good might be accomplished by judicious education, both moral and religious, of young members of the rising generation, and so prevent crime; whilst he would still repeat, that solitary confinement often caused weakness of body and torpor of mind, without producing real reformation.

Mr. Dendy rejoiced that Dr. Winslow had brought the subject before the Society, for it was in such an arena that suggested improvements in our penal laws might be expected to be made. The chaplain and the magistrate could do nothing in this matter, compared with the physico-psychologist. He attributed many of the evils of our present system to the mixing together those persons who were merely committed for trial, with those who had been convicted of crime. There were many innocent persons committed, who were afterwards acquitted, but who, in consequence of mixing with criminals in prison, contracted the habits of the depraved and vicious. He dwelt with much force on the evils inflicted on society by the unpaid magistrates in the country, who almost indiscriminately committed every person brought before them. He spoke also of the evil tendency of many of the publications of the present day, particularly of those belonging to the "Jack Sheppard" school. He thought that the discipline exercised in prisons was not unhealthy, but that much would depend on the situation of the building. He contended that there ought always to be two classes of detaining houses, one for those who were only committed, the other for convicted persons. He regarded the silent system when rightly modified, as a good mode of punishment.

Mr. Wren had been surgeon to the convict hospital at Hobart Town, and drew a very graphic picture of the two modes of treatment to which convicts had been and were, subject to in that island. On the old plan, each convict on landing, was assigned over to some resident to work at some trade, as tailor, shoemaker, &c.; the person to whom he was assigned, becoming, as it were, his jailer and instructor. After the expiration of a term of years he was turned upon the public with a knowledge of his business, and consequently able to obtain his livelihood. In 1841, the probationary system was established, and was the vilest ever invented. Three or four hundred men were kept in gangs for four years, and at the expiration of that time, were turned upon the public, actuated by guilt. The morals of the prisoners at the Port Arthur Settlement, were too horrible to dwell upon. He knew little of the Pentonville prison; but at Port Philip, (thirty-seven out of fifty were from that place,) they were known by their peculiar cast of feature, and their satanic grin. With such men, punishment to be effective must be short, sharp, and decisive, and when judiciously and properly applied, the best punishment was the lash.

Dr. Theophilus Thompson remarked, that the failure to reform individuals by the solitary system, must not be charged upon that system until we put it in contrast with others. He advocated such a modification of it as would develop the benevolent feelings, and thought that the sight of the pleasurable objects in nature, as flowers and trees, might have a good effect.—He denied that we could ever expect, in our punishment, to arrive at anything like abstract justice; the extent of temptation to which the criminal was subjected, could not be known, and it was almost certain that some amount of individual injustice must be done for the general good.

Dr. Crisp thought none of the speakers had gone to the root of the evil, and said that the instances mentioned of the non-influence of punishment on hardened criminals of forty or fifty years of age, did not prove that young criminals were irreclaimable. If we traced the progress of the criminal, we should be astonished at the temptations thrown in his way. The child, like the plant, would be influenced by the atmosphere in which it was placed, and he would ask, what right we had, as philanthropists and Christians, to take away life, when we did not educate. The punishment of death did harm, by sometimes deterring juries from pronouncing a prisoner guilty, and he was thus sent forth to repeat his crimes, while a more humane punishment would have induced the jury to convict, and arrest him in his career of crime.

Mr. Harrison defended the value of capital punishment as an antidote to crime.

Mr. Shearley made some remarks on the importance of discriminating between the hardened criminal and the novice, in the awardment of punishment.

Dr. Chowne spoke of the value of the Pentonville system, properly and humanely modified. He regarded the question of punishment and its effects as essentially a medical one, and referred with much force to the manner in which the medical witness was often treated in our courts of justice, and that, too, by men, who were even ignorant of professional or technical language, so that a great power, which ought legitimately to be wielded by the profession, was taken out of its hands, and hence, in cases of crime from disease, and in insanity, we were not allowed to be judges. Dr Chowne then concluded with some general remarks on crime, and its connexion with the physical and social conditions of the criminal.

Dr. Ogier Ward related the following case of

ULCER OF THE OS AND CERVIX UTERI.

A married lady, aged twenty-seven, mother of three children, always regular, except during her pregnancies and lactation, observed for some time the menstruation to be preceded and followed by leucorrhœa, and to become scanty and irregular. Her last period was on December 7th. By the middle of January she perceived her abdomen and breasts begin to enlarge, and she experienced all the usual symptoms of pregnancy in a marked degree, the leucorrhœa still continuing. Her sufferings being great, and having much dread of their increase during the later months of her pregnancy, she consulted Dr. Ward; his opinion was, that she was not *enciente;* and as she was still incredulous, Dr. Murphy's was taken, to the same effect. A third period having passed without a return of the menses, and all her symptoms being aggravated, Dr. Ward examined her, first digitally, and next with the speculum, as he found the os patent, and softer than natural. This revealed the existence of a granulated ulcer surrounding the os, from which flowed a viscid puro-mucous secretion, and a dusky redness of the cervix. The emollient remedies recommended by Dr. Murphy having been ineffectual, lunar caustic was applied to the ulcer on the evening of the 26th instant, without producing the slightest pain, and almost without any sensation; and the next day menstruation returned, and continued for thirty-six hours, the first portion passed being clotted. Since then the leucorrhœa had returned, but in diminished quantity.

Dr. SNOW BECK read a paper on the

SYMPTOMS, DIAGNOSIS, AND TREATMENT OF THE FUNCTIONAL DISEASES OF THE UTERUS.

After giving the full details of an interesting case of chronic inflammation of the uterus and vagina, occurring in a virgin female, aged twenty-six years, and who had suffered from congestion of the uterus from the appearance of the catamenia, at sixteen, with two intercurrent attacks of acute inflammation of the uterus, he proceeded to examine the deductions which might be drawn from the facts which were thus before the Society. He pointed out that the history was important, as showing that administration of steel medicines, with the view of "bringing on the menses," was injurious, as leading to a perpetuation of the congestion, from the direct stimulant effect of the iron on the uterus; whilst the apparent error in diagnosis, which occurred during the attacks of inflammation,—the one being called "bilious fever," and the other "partly erysipelas,"—caused the original disease to be overlooked, and thus, being left to the restorative efforts of nature, was only partially subdued, and remained in a chronic form, seriously affecting the general health. The symptoms which were present were divided into direct constitutional and local symptoms; the direct including the pains in various parts of the body, the menstrual functions, and the vaginal discharge. After detailing the pains which were present in this case, he showed that the situation of these pains was beautifully and scientifically explained by a reference to the anatomy of the nervous system of this organ. After demonstrating, from preparations, that the uterus was supplied at the lower portion by branches of the spinal nerves derived from the lumbar plexus, the symptoms present in the case were referred to, as showing that one class of the pains were seated in the parts supplied by the nerves from the lumbar plexus—viz., in the lumbar region, the sides of the abdomen, and the inside of the thighs, being reflected from the uterus through the spinal cord, along the nerves arising from the same part of the cord that gives origin to the uterine nerves. The preparations were again appealed to, as showing that the vagina was furnished by nerves from the sacral nerves, whilst the symptoms present in the case denoted that the pains reflected from this organ were seated in the branches of the sacral plexus—to wit, the sacral region, the hips, and posterior part of the thigh,—thus affording a beautiful application of minute anatomy to the diagnosis of diseases at the bedside, as well as proving, by the manifestations of disease, the correctness of previous anatomical investigations. The condition of the menstrual function was shortly considered, whilst the mucous and purulent discharges were pointed out as arising from the vagina, and not indicating any disease of the uterus itself, although they might be combined with it. The constitutional symptoms indicated that the nervous and digestive systems were chiefly implicated in the diseased actions: and after considering these somewhat fully, and showing that the abdominal organs were furnished with spinal nerves from the same parts of the spinal cord as supplied the uterine nerves, the following conclusions were deduced from the consideration of this case:—

1. That the symptoms by which uterine disease is recognised are chiefly referrible to derangements in the nervous system, which consists of,—
   (*a*). Pains reflected from the uterus to various parts of the body.
   (*b*). Irritation of the spinal cord, and its prolongations into the brain, communicated to these organs through the spinal nerves distributed to the uterus.
2. That the reflex pains which have so much puzzled the physiologist and the pathologist, are beautifully explained by attention to the anatomy of this portion of the nervous system.
3. That next to the nervous system, the organs seated in the abdomen are those which are chiefly implicated in the derangement.
4. That the derangement of these abdominal organs may be explained by the irritation of the uterine nerves being reflected through the spinal cord, along the spinal nerves distributed to these organs, and which nerves arise from the same part of the spinal cord as to do the uterine nerves.
5. That the respiratory and circulating systems do not suffer from uterine disease, until this disease has existed a sufficient length of time to derange the general nervous system or the general health.
6. That the immunity of these systems may be explained from the fact, that the nerves which are distributed to them arise from the spinal cord, or its prolongations, higher up than the uterine nerves, and are hence not implicated in the reflex phenomena which exist.
7. That the general health finally becomes implicated by the want of appetite, the deranged digestion, the want of sleep, the little which is gained being disturbed by frightful dreams, and the constant state of irritation and pain which the patient habitually suffers, and which is greatly increased for several days at each catamenial period.
8. As a corollary to these propositions may be added, that when we remember that the organ under consideration is destined to have a periodic afflux of blood to it, to take on greatly increased arterial action, and to undergo wonderful enlargement as a physiological condition—all apparently designed by nature to occur without implicating the general health of the female—we have a reasonable explanation why the diseases of this organ should affect the general health so little as they do.

The diagnosis from anæmia, rheumatism, disorders of the digestive system, diseases of the kidneys and ovary, were glanced at; whilst, from the absence of the last trace of excoriation or ulceration, this case, of itself, was considered sufficient to show that the symptoms which have been stated to indicate ulceration, and which were here strongly marked, do not indicate this morbid lesion; indeed, that there was no satisfactory proof before the profession that ulceration was ever present in the virgin. The treatment, which consisted of rest, warm hip-baths, local application of leeches, mild antiphlogistic remedies, combined with small doses of blue-pill and henbane at night, and acetate-of-lead lotions, was perfectly successful in reducing the disease; after which the general health regained its healthy tone, unaided by other means,—thus showing that the removal of the local disease by rational treatment was sufficient, without the improper use of the speculum and nitrate of silver, as advocated by some authors of the present day.

Plates exhibiting states of congestion and of ulceration of the os and cervix uteri were shown by Mr. ACTON, who expressed an opinion that there was an analogy between the male and female genital organs, and that the anomalous symptoms attending such cases as that before the Society in the female had their parallel in the disease in the male which of late had been called spermatorrhœa, which he though did not depend on the loss of semen, as Lallemand had asserted. Congestion of the urinary organs would, he believed, induce all the symptoms of spermatorrhœa.

Dr. **Quain** said, that his attention had been constantly directed to the class of phenomena comprised within the scope of Dr. Beck's interesting communication, by the great number of examples of these phenomena which presented themselves in our public institutions. He believed that seven-tenths, or more, of all the female out-patients of our hospitals and dispensaries, and many of the males, and even children of both sexes, were cases in which symptoms existed similar to those just now described in connexion with the respiratory, digèstive, and generative organs. He (Dr. Quain) was led by his observations, not, as Dr. Beck and Mr. Acton did, to regard the generative organs as the principal seat of these derangements, with which other derangements were but sympathetically connected; he found in these cases that there existed throughout the mucous membranes, to a greater or less extent, and in a greater or less degree, a common condition—a condition of increased or morbid sensibility, accompanied by a greater or less amount of flux. In the respiratory mucous membrane it was shown by difficulty of breathing, amounting to asthma, on slight exertion, or on a change from one atmosphere to another, accompanied by more or less mucous expectoration; in the gastric mucous membrane it was shown by gastrodynia and pyrosis; in the uterine mucous membrane by increased sensibility to touch, by bearing-down pains, and leucorrhœal discharge. Various degrees and various modifications and combinations of these symptoms presented themselves in almost every case; but he was quite satisfied that few exceptions to the rule, that one portion of the mucous membrane was rarely affected without this membrane in other parts suffering, would be found; but not by sympathy, he should say. We know that the suppression of the secretion of the skin will cause diarrhœa; so will disturbance in the function of the mucous membrane of one organ affect the circulation and the secretion in the membrane lining another organ. This disturbance may originate from an endless but too familiar list of causes acting on the membrane, as it lines any of the important viscera. If this cause be sufficient, whether it be mental anxiety, or bad food acting on the gastric mucous membrane, or menstruation suppressed by cold acting on the uterine membrane, to alter or partially effect the secretion of the one or the other, the secreting action of the injured organ will, so to speak, be directed to the sound one, which then becomes itself a seat of morbid action.. This he (Dr. Quain) believed to be the true explanation of the so-called sympathetic and anomalous affections constantly found in cases such as that brought forward by Dr. Beck. The actual pathological condition of the membrane in these cases was a subject of deep interest; but it must be reserved for a more extended consideration. In the second place, with reference to the reflected pains, (for it was evident that there existed phenomena of reflex pain as well as of reflex motion,) the course of which, in this case, were so well illustrated by the admirable dissections of Dr. Beck, he (Dr. Quain) would say, that the connexion between the sympathetic nerves and the spinal nerves was not limited to the uterine nerves; but that the nerves of the other viscera, and probably of the organs of special sense, possessed a like connexion. It is by bearing this in mind that we can explain many of the wandering pains and the superficial tenderness in various situations which we constantly meet with. For example, in follicular and other forms of sore-throat, we almost always hear of pains shooting down the sides of the neck and over the shoulders; in early phthisis we meet with pain between the shoulders, and tenderness under the clavicles; in gastrodynia we find pain in the dorsal region, along the intercostal nerves, and especially in the left hypochondriac region. Dr. Beck had just now fully described the pains which proceed from the uterine organs; many other illustrations might be given, but all were familiar with the reflected pain at the end of the penis and along the thighs, caused by stone in the male bladder. In connexion with the condition of the mucous membrane, causing this exalted sensibility and reflected pain, was found that superficial tenderness over the spine, called "spinal irritation." He (Dr. Quain) believed this condition to be due to this same reflected sensibility, just as in inflammation and ulceration of the conjunctiva there is excited a morbid sensibility of the retina, and intolerance of light, without any marked or primary disease of the retina itself. He apologized for these imperfect and unprepared remarks, which listening to Dr. Beck's communication had induced him to intrude on the Society. Repeated observations had led him to form the view which he sought to express, and he believed that in it lay the key to the right understanding of a most troublesome class of ailments, and not more troublesome than of frequent occurrence. By keeping in view this connexion of diseased action in one portion of the mucous membrane with that in another, and the reflected pains and sensations thence proceeding, he had found these affections far more manageable and amenable to treatment than they would otherwise be. He would probably seek an opportunity of bringing some of the cases to which he referred, and which were in themselves perfect illustrations of his argument, before the Society.

Dr. **Wagstaffe** supported these views, and was inclined to refer those symptoms said to be caused by ulceration of the cervix uteri to a diseased condition of the mucous membrane,—to catarrhal irritation, and not to inflammation or its consequences.

Dr. **Barnes** believed that the ulceration of the cervix spoken of by some was only two steps removed from the congestion described by Dr. Beck, and that it would not be easy to determine where the one terminated and the other commenced.

Dr. W. B. **Ryan** related a case of

POISONING BY ARSENIC ACID,

in which the symptoms were long in showing themselves. After citing the opinions of medical jurists, that symptoms of poisoning were seldom delayed beyond an hour, he quoted several cases where they continued five, and one or two where they were delayed to eight and ten hours respectively, the latter being "the maximum yet known." He quoted authorities to show the variable period of death, Dr. Taylor's opinion being given, that twenty-four hours was the average period. Dr. Ryan then narrated the case of Wm. H. H——, aged thirty-five, to whom he was called about one o'clock on Wednesday, July 14, 1847, and who had taken poison. He found him in bed on his back, vomiting frequently; he was quite collected. The patient appered an intellgent man, and said that some time previously two men in presence of a woman, used a term of obloquy towards him. After this he imagined people's eyes were suspiciously fixed upon him wherever he went. This was a delusion. He said that on the previous day, at two o'clock P.M., he had taken half an ounce of arsenic in porter, adding water to take up what remained, and that he did not begin to vomit until eleven o'clock. His brother gave evidence to this effect at the inquest, as well as to the fact of his having rinsed out the pewter vessel from which the arsenious acid had been taken, and noticing a very small quantity of white sediment, of the nature of which he had no suspicion. That half an ounce was the quantity was ascertained from the persons who served the arsenic. The patient also said, to which his brother afterwards deposed, that after thus vomiting at eleven o'clock, he did not get out of bed again until half-past seven o'clock next morning. He did not even then complain of suffering from poison. The brother, on his return at twelve o'clock, was for the first time informed of the fact of poison having been taken. The extremities were cold; no pulse at the wrist; slightly perceptible higher up; no pulse in dorsalis pedis, nor in posterior tibial, behind the inner ankle. He frequently raised himself on his elbow to vomit, and then fell back exhausted. The thirst was intense, and he took much drink during the morning; sensation of burning pain down the œsophagus; severe pain across epigastric region; more acute over region of liver; much increase on pressure; pain over abomen; he was restless, and tossed about, ejaculating frequently; no inflammatory appearance about mouth or fauces. The basinful vomited during the morning and previous night had already been thrown away, and two basins were beside the bed, one containing the second quantity vomited—four quarts of a yellow, the other about three quarts of a very dark-green fluid. Hydrated peroxide of iron, sulphate of zinc, and the stomach pump were put in requisition; friction to extremities, oleaginous aperients, subsequently opium, ether, and compound spirit of ammonia. Here were many of the symptoms of poisoning, yet the history of the case and the time symptoms were delayed, were calculated to raise a doubt whether arsenic had been taken. The fluids were therefore taken away for the purpose of analysis. The first basinful vomited having been thrown away, the second and third remained, and it is most important to remark, that from the third basin, in which were the contents of the stomach drawn by the stomach-pump, the arsenic was not only much more quickly detected, but from the very sediment in that basin (arsenite of iron, it may be presumed, as well as uncombined arsenious acid) being dried, and mixed with black flux, a ring of metallic arsenic was obtained by heat, thus showing that the poison had remained undissolved twenty-four hours, adhering most probably to the mucous coat of the stomach, was brought away undissolved, and so remained in the liquid. All the usual tests were tried with the usual results. By the coroner's orders, in case the poison were known, the body was not to be opened. On the Saturday following an inquest was held. During the first visit, the patient wandered a little; from first to last no attempt to rally. On the Thursday night the symptoms increased to intensity; he passed dark bloody stools, of a very offensive character. At ten on the Friday, the pulse scarcely perceptible, high up; the patient restless, suffering from internal burning pain, and spasms of the extremities, went on until twelve o'clock, when he died convulsed; thus living within two hours of three days after taking the poison. Some time ago, had arsenic been administered criminally, in such a case as this, the proofs being slight, the party might have escaped, under the idea that symptoms could not have been so long delayed. This case will prove that symptoms may be long delayed, and may serve as a guide in future cases of criminal poisoning. Here is a man taking half an ounce of arsenic at two o'clock, July the 13th; he does not vomit until eleven at night, the act even then being attributed by his family to a tippling sickness. His brother deposes that he did not get out of bed until half-past seven next morning, and did not even then complain of suffering from poison; nor did he do so while his brother took breakfast—a period of nineteen hours, and with such a dose. We observed that he survived nearly three days, as well as the fact of a week's tippling, so completely enervating, narcotizing the stomach, as to incapacitate it from its usual healthy action, and in its deranged state allowing the common effects of the poison to be delayed. The fact is also seen, that there was more poison in the *third* basinful vomited,—washed away, as it were, and dislodged by the stream from the stomach-pump,—than in the other two. It is also observable how long he concealed his sufferings—a period of twenty-two hours.

Mr. ROBERT WADE had seen the patient whose case had been just related the second night after he had taken the poison. The symptoms were entirely those of collapse, and were not at all referrible to inflammatory action.

MR. HUTCHINSON read the following

CASE OF HYDATIDS OF VESICULAR MOLES IN UTERO.

Mrs. H——, aged twenty-five, married more than three years, the mother of two children, the youngest now fifteen months old. She has always enjoyed a good state of health until the first of January last, when she menstruated, and shortly afterwards thought herself pregnant. About three weeks ago she had a discharge of blood per vaginum, which continued, with short occasional intermissions, until the expulsion of the hydatids. On the 23rd of March there was considerable uterine hæmorrhage, attended with severe pain in the back and head. On the 27th the same symptoms returned, with great tenderness over the abdomen, and she lost a considerable quantity of clotted blood. The abdomen suddenly enlarged, and the swelling appeared greater on the right side than the left. On the 31st she suffered all day from severe uterine pains, similar to those of labour, attended with slight hæmorrhage.—April 1st. Three A.M.: Mr. Hutchinson was called to her. Pulse 130; very weak. On examination per vaginam, there was a large mass which he believed to be the ovum, protruding through the os tincæ; but on removing it, he ascertained that it contained a large quantity of hydatids, resembling a bunch of grapes, varying in size from a pin's head to a good sized nut. They are called by some writers acephalocystes multifia, and by others, tænia hydatigena. Tinct. secali, with mineral acids, was given, and morphia at night to relieve the pain. The tenderness over the abdomen was considerable after the expulsion of the hydatids, but by warm applications externally, and opiates internally, the pain gradually subsided, and she is now convalescent. If pregnancy had existed, the germ had been most probably destroyed, as not even the rudiment of a fœtus could be found.

Mr. THOMAS WAKLEY read a paper, of which the following is an abstract, on

A CASE OF EXCISION OF THE ASTRAGALUS AND OS CALCIS, WITH SOME GENERAL OBSERVATIONS ON THE EXCISION OF JOINTS.

Excision of the extremities of bones entering into the formation of joints, was first projected and practised in the year 1782, by Mr. Park, at that time one of the surgeons of the Liverpool Infirmary. He proposed to "remove all the ends of bones which formed the joint, with the whole, or as much as possible, of the capsular ligament, and to obtain a cure by means of callus, or by uniting the femur to the tibia when the operation was performed on the knee, so as to have no moveable articulation in that situation." He repeatedly excised the bones of joints on the dead subject, with a view to learn the best method of avoiding the large and important vessels and nerves which ran over, around, and about the joint which admitted of such operations. Mr. Park selected the knee-joint for his first or experimental operation; and although the case caused very great trouble and anxiety, and many abscesses and sinuses were formed, and the inflammatory action became dangerously severe, yet the operation is stated to have been completely successful. Many months were required for the completion of the cure. Mr. Park says that "the man, a sailor, afterwards went to sea, and performed the duties imposed upon him by the service very well. About the same time, Mr. Park performed excision of the knee-joint upon another patient; but the patient died. In the same year, Moreau, an enterprising French surgeon, excised the extremities of the bones of the elbow-joint, and the result is thus stated by him in the report of the case, in the memoir on the subject presented to the French Academy:—"In a fortnight after the operation the patient was so well that he was allowed to go wherever he pleased with his arm supported in a case. The arm was at first powerless, but it slowly regained its strength, and the man could ultimately thrash corn and hold the plough with it." In the same year (1782) the operation of this excision of the elbow-joint was twice performed by another French surgeon, and in both cases with complete success, the patients retaining considerable movement of the arms. From that date to the present time, operations for the removal of the extremities of bones entering into the formation of the different joints, have been practised by English as well as continental surgeons; and the general success which has attended these operations fully justify their repetition. The limbs which have been saved are, in many instances, the living monuments of the triumphs of surgery. It is extraordinary that the ability of such operations did not at an earlier date engage the attention of practical surgeons. Surely Nature herself dictates such operations; for in those instances where the power of the constitution conquers the local malady, and even after the cartilages and bones have been involved in the ulcerative action, bones sometimes united and ankylosed, and without the assistance of a surgeon, and most useful limbs are still preserved. These fortunate terminations are certainly rare, still a sufficient number of them have been seen to afford excellent practical lessons in the wide field of operative surgery. However, we must not deceive ourselves with regard to the severity of the operation of excising bones forming joints; and in many cases amputation of the limbs must be adopted as the only means of saving life. Several authors on this subject consider the effect of amputation on the constitution as less severe than excision of the joint, and a patient who would sink under the effect of re-section might recover after amputation. We must allow that this operation has now taken its place in our list of legitimate operations, and if the cases be carefully selected, the diagnosis correct as to the kind and *extent* of disease, the operation properly and skilfully performed, it is a justifiable means of attempting to save both limbs and life. With respect to the excision of joints of the upper and lower extremities, opposite results are required to secure future utility to the limbs. Considerable movement being required for the arms, the surgeon consequently endeavours to promote the formation of a ligamentous joint in that limb, because in the human subject the upper extremities are the organs of prehension. The lower extremities having, on the contrary, to support the body, the means of progression, solidity, and firmness, more than mobility, are sought to be attained; accordingly the formation of ankylosed joints in these extremities often promote the happiness and welfare of the patients. On these grounds we cannot be surprised that operations of this character have been more frequent upon the arm than upon the leg, and that the more successful results have usually been those following such operations on the upper extremities. Until the last few years, the ankle-joint was not considered favourable for the operation of excision, its complicated machinery and anatomical relations being considered impediments to the complete excision of the ends of the bones. Some surgeons, notwithstanding there are opposing facts before them, still adhere to the opinion that it is necessary to amputate the foot for disease of the bones of the tarsus; thus we have the operations of Chopart and Syme for the removal of portions of the foot. However, there are cases on record, and there is evidence afforded by the conditions of patients themselves, proving in some cases the superiority of excision of the ankle-joint over amputation of the foot. While contemplating the operation, an account of which forms the principal feature in this brief memoir, devoted to the subject of the excision of joints, I received great encouragement from reading the descriptions of cases of compound injuries to the ankle-joint, narrated by Sir Astley Cooper in his admirable treatise on Dislocations and Fractures, as it was shown by this celebrated surgeon that these cases had recovered and done well after the most severe forms of dislocation and fracture—where even the astragalus was dislodged or extracted. Sir Astley Cooper says, in reference to this injury, in Case 190: "In the first case of this accident which I had an opportunity of witnessing, the astragalus was thrown inwards and forwards upon the navicular bone; and when I afterwards saw the limb upon the table of the dissecting-room, it having been removed by amputation, I exclaimed, 'Surely that limb might have been saved!'" In Case 153, Sir Astley says: "On examination, there was found a compound dislocation of the ankle-joint. The tibia was thrown on the inner side of the foot; and when the finger was passed into the wound, the astragalus was discovered to be shattered into a number of pieces. The loose and unconnected portions of bone were removed, and the tibia was replaced; after which lint, dipped in the oozing blood, was wrapped around the lacerated part, and the limb was placed on its outer side, with the knee considerably bent." In concluding his remarks on this case, the author states, at the end of "four months the suppurated parts had filled up, and the wound had healed. At the end of nine months the patient returned to his employment, but the ankle-joint was stiff. In two years he had so far recovered as to walk without the aid of a stick; and at the end of three or four years, he was able to pursue his avocations nearly as well as at any former period of his life." In case 191, of which an account was sent me," says Sir A. Cooper, "by Dr. Lynn, of Bury St. Edmunds, it will be seen that the discharge of the astragalus, in a compound dislocation of the ankle-joint, did not prevent the patient's recovery; for he says, "in five weeks a portion of the astragalus separated, and another piece a week afterwards, which when joined, formed the ball of that bone." Again, Case 192 in the same work: "Mr. Tyre of Gloucester had also under his care a case of compound luxation af the astragalus, in which he cut out the luxated bone, and the patient had a good recovery with a tolerably useful foot." I might quote other instances recorded by Mr. Henry Cline, Mr. J. H. Green, and Mr. Liston, who had under their treatment similar cases attended by equally successful results. From these cases it has appeared evident, that however severe the injury to the joint, if either of the principal arteries supplying the foot—viz., the anterior and posterior tibial arteries, be saved and due nourishment thereby supplied to the foot, the patient has had a reasonable prospect of retaining an useful limb. The difficulty of saving one of these arteries was the principal, if not the only obstacle, in the operation of the removal of the astragalus and os calcis. From the mode in which I intended to proceed with the operation it was inevitable that the posterior tibial artery must be sacrificed. The preservation, therefore, of the anterior tibial artery, became an object of paramount consideration. I therefore determined on the mode of operation which I shall presently describe. It will be remembered by gentlemen present, that the anterior tibial artery, vein, and nerve pass directly over the astragalus, the artery in fact may be said to be adherent to the bone, and the dissecting out of an all-important vessel thus situated requires a careful application of the scalpel; it may be even remembered that the success of the operation in all probability depends upon saving that vessel. An accurate diagnosis of the extent of disease was with difficulty ascertained in this case, which must generally happen in diseases of the joints; it may also be proved, that if the surgeon does not completely eradicate the diseased portions of bone, success cannot result from the operation. This is more difficult with reference to the complicated structure of the ankle-joint than with others, and is one of the most prominent of the facts urged by those surgeons who are opposed to this operation, and who prefer amputation of the foot to excision of the bones of this joint. I have now operated three times upon the ankle-joint in two cases, partially excising the bones of the joint. Amputation had been considered necessary in each case; but I am happy in being enabled to state, that through this modified operation the limbs were saved. I would now draw your attention to the third case—that of the man, William Brown, who was exhibited to the Society a few evenings since, and who was the subject of the operation to which I have before alluded as my justification for trespassing upon the attention of the Society. In my remarks upon that occasion, I mentioned that an operation of a novel character had been performed on his foot, that the astragalus and os calcis, together with the malleolar processes of the tibia and fibula, had been removed for extensive disease existing in the two first-named bones. The history of the case is as follows, abridged from the daily report of Mr. Weedon Cooke, who was at that time resident-surgeon to the Royal Free Hospital:—

N. B., aged twenty-three, a tailor, of dark complexion, pale, and emaciated, was admitted into the Royal Free Hospital, December 20th, 1847.′ Twelve or thirteen years previously, an abscess had formed at one side of the ankle without any apparent exciting cause; this broke, and continued open for two years; it then got apparently well, and remained so (the ankle all the time being weak) until ten months since, when he sprained the ankle whilst wheeling a truck. Inflammation was set up, and in a few weeks an abscess which had been forming, burst. At this time he became a patient at St. George's Hospital, where he was told that the bones were extensively diseased. Having remained there for nine weeks, he was sent to Margate for sea-bathing, which he continued for four months: during this time, a portion of bone of the size of a hazel next came away, and he was then greatly reliev- from the pain, which had previously been very severe. At the termination of these four months he returned to his employment for a month; but finding his foot again becoming worse, he obtained admission to the Brighton Hospital, where he continued six weeks; there amputation of the leg was proposed to him; to this he objected, and coming to town, he applied for admission at the Royal Free Hospital.

December 21st.—On examination of the diseased member this day, the integument all over and around the left heel and inner ankle was found to present an unhealthy purplish aspect, and there were three openings, from which a large quantity of ichorous fluid exuded. Two of these openings corresponded with the position of the astragalus and the os calcis, and a probe introduced into them entered the substance of those bones; the third opening communicated with the calcaneo astragaloid articulation. It was evident that the os calcis and astragalus were in a state of caries; but after a careful examination, I was led to believe that the internal parts of the ankle-joint were not implicated in the disease. The man had been suffering for some time under constitutional disturbance arising out of the state of his foot, and it was apprehended that hectic fever would soon supervene, and destroy him. Symptoms of hectic had already appeared. As the patient expressed a wish to be enabled to retain his foot, and had strongly objected to its removal, either below the knee, or at the ankle-joint, I determined to dissect out the diseased bones—namely, the os calcis and astragalus, believing that I could effect this object, and leave the patient an useful and efficient member for the purpose of progression. On making this proposal to the patient, he immediately assented, and was desirous that the proposed operation should be performed.

On December 27th, 1847, the man was placed on the operating-table. Mr. Robinson administered the chloroform, and a complete state of insensibility was soon induced. I was ably assisted in the operation by Mr. Erasmus Wilson, and by my colleagues, Mr. Gay, and Mr. Weeden Cooke. The diseased foot (the left) having been drawn forwards, so as to be free of the table, I made an incision from malleolus to malleolus, directly across the heel. A second incision was next carried along the edge of the sole from the middle of the first, to a point opposite the astragalo-scaphoid articulation, and another on the opposite side of the foot, from the vertical incision to the situation of the calcaneo-cuboid joint. These latter incisions enabled me to make a flap about two inches in length from the integument of the sole. In the next place a circular flap of integument was formed between the two malleoli posteriorly, the lower border of the flap reaching to the insertion of the tendo-Achillis. This flap being turned upwards, the tendon was cut through, and the os calcis having been disarticulated from the astragalus and cuboid bones, was removed, together with the integument of the heel, included between the two incisions. The lateral ligaments connecting the astragalus with the tibia and fibula were now divided, and the knife was carried into the joint on each side, extreme care being observed to avoid wounding the anterior tibial artery which was in view. The astragalus was then detached from the soft parts in front of the joint, and from its articulation with the scaphoid bone, and the malleoli were removed with the bone nippers. The only artery requiring ligature was the posterior tibial. During the few minutes the operation lasted, the patient did not manifest the slightest symptoms of pain or uneasiness. On bringing the edges of the flaps together, they were found to fit with accuracy, and were secured by twelve interrupted sutures. The wounds were covered by several folds of lint, and supported by a light bandage. The patient, who had lost but very little blood, was then removed to his bed.

Mr. Wakley followed the case, reading quotations from the hospital case-book of the daily condition of the patient, until the twenty-first of February, when he was reported discharged from the hospital, (the foot being well, with the exception of a small opening,) to go into the country. He came again up to town on the 15th of April, and has become stout. The sinus on the left side of the foot had closed, but a slight collection of matter had formed a little above the instep; this was discharged by means of a puncture with the lancet and he was directed to return to the country and disch cold water over the foot two or three times daily. On the 10th of June he returned to town, and to his employment. There was then not the vestige of a wound, the last opening having completely healed. He was ordered to wear a high-heeled boot. He is now a healthy looking man, and walks very well.

In conclusion, I believe that I am perfectly justified in stating to the Society that the operation I have detailed was the first of the kind that has ever been performed; but I venture to hope that it will not be the last. The patient has been seen by the members of this Society, and thus an opportunity has been afforded to them of seeing the useful limb which has been preserved, to the manifest advantage of the patient. While unnecessary surgical operations cannot be too strongly condemned as being the causes of unavailing suffering, and of injury to the reputation of our profession, such cases as the one I have described, I venture to state, hold out an encouragement to resort to instrumental aid, with a view to the preservation, rather than the sacrifice, of a limb.

In the discussion which took place various speakers took part. It was generally considered that the operation was justly entitled to be ranked amongst the usual operations of surgery, and was as much identified with the name of the author of the paper as the operations suggested by Chopart and Syme were identified with those surgeons. Upon this point, indeed, there could be no difference of opinion; for even though excision of joints had been performed on many occasions before, yet the principle in this case was carried to an extent, and in a direction never before practised, or even contemplated, by any other surgeon. With respect to its superiority over other operations upon the foot, it was contended, that in those cases in which it was applicable (acknowledged, however, to be few) it offered advantages over other operations, and the remarkable success which had attended the case under consideration was advanced in evidence. It was admitted on all hands that success had attended this operation. With respect to the diagnosis, which was referred to as a difficult point in cases of disease of the tarsal bones, in relation to the extent of the disease, it was remarked that the situation of the sinuses and the history of the complaint would afford great assistance in the matter; and it was contended that the detection of the real extent of the disease was not so difficult as some imagined. It was, moreover, shown, that the operation in question would tend to improve the practice of surgery in respect to excision of joints.

A NEW DISEASE OF THE UTERUS.

Dr. Snow Beck placed upon the table the uterus, ovaries, vagina, and vulva of a young woman, aged twenty-two, who died, in the beginning of last September, from typhoid fever. He did not see the case during life, but was present at the examination after death. She came under observation on the 23rd of July, 1850, and on the sixteenth day was considered to be convalescent, the notes on this day being, "Slept well; no return of delirium; skin natural; tongue moist, and cleaning; appetite returning; two stools in the twenty-four hours; pulse 96." A few days after this a slough was observed on the sacrum, and the patient gradually sank, without any appreciable cause. At the post-mortem examinations no morbid lesion was found sufficient to account for death, except it were the state of the uterine organs. She was believed to be a virgin, and there were no signs in the breast or abdomen which could invalidate this idea. The orifice of the vagina was small, scarcely admitting the index-finger, and surrounded by a projecting fold of mucous membrane, which was considered to be the hymen. The vagina was contracted and rugose, as in virgins; the orifice of the uterus smooth and open, admitting the end of the index-finger to the root of the nail; the lips large, and projecting into the vagina. On withdrawing the finger, the end was observed to be coated with adhering epithelium. Examined from the abdomen, the uterus was found large, rounded, plump, as in women who had borne children; also antiflexed against the bladder. After the removal from the body, the vagina was seen of a deep-claret colour, whilst the epithelium could be readily separated from the mucous membrane as a continuous layer, having the denuded and deeply-coloured membrane beneath. Here was a puzzling condition to meet with in a supposed virgin. Being unable to solve the difficulty, the nurse was asked whether anything unusual was observed about the patient during the illness, when she replied, that during the height of the fever she was always talking about her baby, and saying she could not help it dying. Put upon this scent, it was soon discovered that she had recently had a child, thus readily explaining the anomalous conditions met with. After the removal of the uterus, it was carefully examined. With the exception of an increased number of bloody points on section, it did not present any evidence of inflammation. No fibrine, exudation corpuscles, or other inflammatory result was found, nor any heterologous deposits; yet the substance of the organ was enlarged and increased in thickness. What could this arise from? On examining a portion with the microscope, it was found to retain, in an unusual degree, the structure which is observed in the organ at the ninth month of pregnancy, with this exception, that the muscular fibres composing it were smaller in size. Compared with a portion of another uterus, which had been impregnated, the fibres were found to be larger than this specimen; or, in other words, that the condition of the muscular substance of the uterus under examination was midway between the tissue of the gravid uterus at nine months and the tissue of a healthy uterus after impregnation, whilst no other morbid condition was noticed. These facts pointed to the conclusion, that this affection had its origin in an arrest to the due absorption which naturally follows parturition. Sketches of the different microscopical appearances were shown to the Society; and Dr. Beck observed, that they offered another example of the error of Dr. Bennet, when he stated that the body of the uterus was void of cellular tissue; for in each preparation taken from the centre of the body of different uteri, the cellular tissue was clearly shown to exist. Dr. Snow Beck observed, that the morbid specimen presented many interesting points of view. It occurred in a case of typhoid fever. Was the inflammation of the vagina and vulva a sequence of this fever, or only an accidental concurrent disease? Was it, again, the cause of the unexplained depression and subsequent death of the patient? Unfortunately, none of these questions could be determined in the present case. An interesting case of a similar character is recorded by Dr. Hughes, in a medical journal; but in that the patient presented symptoms of uterine affection on the first day of observation; whilst no history is given to show how long these symptoms had been present. We are consequently unable to decide whether the fever occurred in a female already suffering from inflammation of the vagina, or whether it was a secondary affection from the typhoid fever. The preparation offered another example of the fallacy of the dogma of Dr. Henry Bennet, that an open condition of the os uteri was "pathognomonic" of inflammation and ulceration. Here no inflammation of the uterus was present, yet the orifice admitted the point of the finger. It further showed, that the open condition depended on a state of the organ, in no way related to the inflammatory process. It is, indeed, impossible to conceive how inflammation can open the orifice; for this process causes swelling in every direction; and especially in that where least resistance is met with. It hence causes obstruction to the orifice, and not the patent state which, when present, depends upon some new deposit taking place in the walls of the organs, or as here shown, from an increase of the muscular structure, the consequence of a deficient absorption following parturition. This preparation also demonstrates the fallacy of the statement which has been made, that the condition of the uterine organs cannot be determined after death; for here, after soaking in preserving fluids for six months, the morbid conditions are still clearly discernible. The ready separation of the epithelium is also worthy of note, as it might be removed in the handling during a post-mortem examination, and gave rise to the erroneous idea that this was a morbid process instead of a mechanical one, and favour the notion of the frequent existence of ulceration. An important practical question also arises out of this case,—Can this condition of the uterus, which has been mistaken for that of inflammation and ulceration, be prevented by the management of the female during parturition? From theoretical reasoning, he was led to adopt the plan of administering a dose of ergot of rye and borax combined with hyoscyamus, after the birth of the child, with the intention of producing complete contraction of the organ, and thus, by shutting off the blood no longer required, to ensure a due absorption of the lately gravid organ. This plan had been eminently successful so far as he had tried it; but whether this is only an accidental sequence of fortunate cases, or the result of the practice adopted, must be determined by further experience.

Dr. HENRY BENNET read a paper on the

DIAGNOSIS OF INFLAMMATORY DISEASES OF THE CERVIX UTERI, AND ON THE USE OF POTASSA FUSA, OR POTASSA CUM CALCE, IN THEIR TREATMENT.

HE began by stating, that it was not his intention to enter at length into the consideration of the symptoms of inflammatory disease of the neck of the uterus, inasmuch as he had done so in his work on Uterine Inflammation, but merely to give a brief and clear synopsis of the symptoms and moral considerations which guided him in the use of surgical means of examination and treatment. The discussions which had taken place recently in their Society, rendered this a positive duty on his part, as his name and authority had been appealed to by a member, as a sanction for his surgical scrutiny of the uterine organs of many hundred females who had no uterine disease, and that in order to discover a comparatively limited number of instances of disease so slight, as to give way to injections and general treatment alone. He took this opportunity of most emphatically and most solemnly repudiating any connexion, either as an author or as a practitioner, with such unheard-of and such unwarrantable practice. The rules of diagnosis which he had laid down were meant to lead to the recognition of positive disease, and not to sanction the satisfaction of morbid curiosity, as to the state of organs which there is no excuse for interfering with, and bringing into view by surgical means, unless we have the conviction that they are the seat of disease, and of disease not to be cured by other than surgical appliances. Moreover, he had no hesitation in stating, that they did lead to such results in his hands, and in those of all the conscientious, scrupulous observers with whom he came professionally in contact. He did not himself make an instrumental examination of the uterine organs once in six months without finding sufficient disease to justify the step. It was stated by many, that these means of investigation were liable to abuse, and had been abused, and in this statement he agreed. The possibility of such abuse, however, would be best prevented by the heads of the profession laying aside all prejudiced and senseless opposition to what was the truth, by their ceasing to judge of new facts by past experience, which was valueless, and by their joining him in his endeavour to point out the rules which ought to guide practitioners in having recourse to means of diagnosis and treatment, without which uterine pathology must remain an inextricable mass of error and confusion. He was compelled, however, to say that the greatest instance of abuse that had come before the profession was contained in the paper to which he had alluded, that of Mr. Greenhalgh. The statements therein made, implied an abuse of instrumental investigation, carried to an extent of which the records of the profession, both at home and abroad, afforded no parallel. The mucous membrane lining the cervix uteri and its cavity, a highly organized membrane, and one abundantly supplied with mucous follicles, was extremely liable to inflammation and ulceration. The slighter and more fugitive forms of inflammation to which this mucous surface was liable, no doubt gave rise only to slight and fugitive symptoms, and were consequently scarcely ever seen by observers, who, like himself, never even thought of bringing the organs in question into view, unless the local symptoms were intense, or being slight, were intractable to ordinary treatment, and connected with equally intractable general symptoms. Owing, no doubt, in a great measure, to the circumstance of the molimen hæmorrhagicum of menstruation generally aggravating and feeding the diseased condition, inflammation in this region, however, too slight in the first instance to be noticed, often became confirmed, and ended in ulceration, when a host of decided local and general symptoms usually appeared. The tendency of confirmed inflammation of this mucous membrane to end in ulceration was so great, that out of 243 cases of inflammation, attended with decided uterine symptoms, treated by him at the Western General Dispensary, in 222 slight or severe ulceration was present. The local symptoms were, pains in the lumbo-sacral, ovarian, hypogastric, and inguinal regions, as also pains down the thighs and legs; sensations of weight and bearing down, accompanied by more or less difficulty in standing and moving; derangement in the menstrual function, assuming the form of dysmenorrhœa, menorrhagia, amenorrhœa; vaginal discharges; constipation, or diarrhœa; irritability of the bladder, &c. The general symptoms were principally dyspeptic, neuralgic, and hysterical conditions, entailing, secondarily, defective general nutrition, and consequent debility and anæmia. When all, or nearly all of the local symptoms enumerated existed, the examination of the uterine organs was at once indicated and sanctioned, as it was all but certain, not only that disease existed, but that it was of long standing, and had produced structural changes which could only be remedied by local surgical treatment. If one local symptom was present but in a marked and constant manner, with or without general symptoms, the existence of disease was very probable, but no examination was warranted until ample local means, such as injections and proper general treatment, had been tried—Lastly, the mere existence of disordered general health, of depraved functional activity, of dyspepsia, hysteria, anæmia, &c., in the absence of uterine symptoms, was no proof whatever of the presence of uterine disease; although the lengthened duration of these conditions, and their proving intractable to the usual treatment, ought to lead us to minutely scrutinize verbally the state of the uterine functions. By thus minutely weighing the symptoms, general and local, and by submitting doubtful obscure cases to the test of general and non-surgical local treatment, a conscientious and scrupulous practitioner need seldom, if ever, make an unnecessary physical examination. Even when such an examination was deemed advisable, the use of the speculum ought never to be thought of until a careful digital investigation had confirmed its necessity. The morbid conditions of the body of the uterus, as to size and position, could only be recognized by the finger, the speculum giving no information, and the finger of the practitioner, with whom it had been educated by the eye, was also the safest guide as to necessity for further examination. If the os was found open, so as to admit one or two fingers, or even the tip of one finger; if the cervix was enlarged and indurated; or if its surface was velvety and soft, the use of the speculum was indicated. The open state of the os was a very valuable symptom, as it was nearly always the evidence of ulceration occupying the surface, or of inflammation penetrating the cavity of the os uteri. If a speculum examination was then decided on, the cervix ought to be brought fully into view, so as to reveal even its vaginal attachments, and in a sufficiently good natural light to show even a speck of dust on any part of its surface. If, moreover, the lips were morbidly open, they should be separated by a bivalve speculum, with the assistance of the uterine sound, so as to allow the eye to penetrate into the os as far as possible. The lesions thus brought to light, were the lesions which characterize mucous membrane similarly diseased in all parts of the human economy—those produced by inflammation and ulceration. He, and the continental pathologists who had preceded him, had described, under the head of granular inflammation, chronic inflammation of the cervical mucous membrane, unattended by any solution of continuity, and characterized by the hypertrophied condition of the mucous follicles strewn over its surface, which gave it a kind of strawberry appearance. They also gave the name of ulceration to all solutions of continuity, the result of morbid action, and characterized by the existence of pus or sanies secreting erectile granulations, such as are formed on all sores and wounds healing by second intention, and that whether the granulations were so microscopic as to constitute a mere abrasion or superficial ulceration, or so large as to constitute a luxuriant fungous sore. Such conditions responded to and tallied with the definitions of ulceration given by all classical writers.—Some of his opponents had denied that the lesions found in this region were ulcerative, and had endeavoured to make the profession believe that they were merely forms of "granular inflammation." They had never, however, deigned to explain what they meant by granular inflammation, or given a definition of it. If it was their intention to repudiate the established nomenclature of surgery, and to give to what had hitherto been called ulceration the name of granular inflammation, he for one would not object to the change, provided it could be established that such a change was desirable and necessary. But in the meantime, he repudiated the term as thus applied. In a communication recently read before the Society, it had been stated, that there was no proof before the profession that ulceration ever existed in the virgin. Although he was fully aware that he did not, unfortunately, possess the confidence of the author of the paper alluded to, he was surprised to find such a statement made, considering the publicity he had given to the case furnished to him by Mr. Anderson, his late colleague at the Western Dispensary. It would be seen by the examination of the uterus of Mr. Anderson's patient, a young female of eighteen, who died of acute disease, with an intact hymen, which uterus was in the hands of the members, that a large inflammatory ulcer occupied the os and its vicinity. Even if his experience and statements were repudiated, this case ought to have brought conviction to the mind of the practitioner to whom he referred. He would take this opportunity of again asserting, as he had ever done, that the physical examination of a virgin female could only be warranted by severe and intractable disease, and ought always to be looked upon as a last resource,—as one not to be contemplated until after months or even years of unavailing general and non-surgical local treatment. Indeed, as he had stated in his work, it ought not to be taken by any practitioner on his own responsibility, unless his position as a consulting authority in female disease warranted his so doing. The rules which guided him in the treatment of the local element in these inflammatory affections of the neck of the uterus might be stated in a few words—it was the treatment followed in all chronic inflammatory diseases situated in a position attainable by surgical means. If acute or subacute inflammation was present, it ought first to be subdued by antiphlogistics and astringents; and if the morbid action still persisted, it should be modified and converted into healthy vital action, by direct stimulation of the diseased tissues. This indication was obtained, in successive stages of intensity, by the nitrate of silver, solid or in solution, by the mineral acids, and lastly, by the actual cautery and potassa fusa, or potassa cum calce, which he preferred. Potassa cum calce, was first introduced as a means of stimulating unhealthy uterine sores, and of melting induration in this region, by M. Gendrin, of Paris. When, however, he himself left Paris, nine years ago, it had not been adopted by other practitioners. He could claim the merit of having introduced it to the profession here, and of having greatly simplified its action and use by running it into free cylinders, which could be used as easily as those of nitrate of silver, and with nearly as little risk. He had used it in scores of cases, for fourteen years, without accident, and did not consider there was any reason for apprehension, provided the operation was skilful and cautious. At the same time he never applied it to *destroy* indurated tissues, but merely to set up eliminatory inflammation, under the influence of which the indurated parts softened and melted. When applied to the os, care ought to be taken that the orifice of the cervical canal did not subsequently close too much. He had had several cases from the country, treated by other practitioners, in which the os uteri was all but closed, for want of these precautions. He had never found any difficulty in re-dilating the narrowed os; but it was better to prevent such a result occurring, than to remedy it when produced.

Dr. WAGSTAFFE considered that the uterine neck might be the subject of inflammation and ulceration at any period of life. He thought no sufficient diagnostic mark had yet been pointed out between mere erosion and ulceration in the cases under consideration, and inquired of Dr. Bennet if he had any information to offer on the point.

Dr. BECK spoke at great length on the subject of the paper. He denied many of the statements of the author.—First, he said the mucous membrane of the cervical neck was not highly vascular. He denied that the uterus was connected by the sympathetic nerve with most of the other organs of the body. He declared that cellular tissue did exist in the uterus. He denied that ulceration of the uterine neck frequently existed in virgins, and declared that the use of the speculum was not warranted in some of the cases mentioned by Dr. Bennet, in which a single symptom was persistent. He then ridiculed the notion that severe disease of the womb could exist for a long time in connexion with a state of "robust health," as had been stated in one of Dr. Bennet's cases. He called into question the accuracy of the definition on ulceration, as given by Dr. Bennet, and denied that an open state of the os uteri was necessarily pathognomonic of inflammation. He denounced the potassa fusa as a dangerous remedy, and related a case in point, in which this remedy, with a series of what appeared to be barbarous operations, had been performed upon a young woman, who it was said had closure of the os uteri. Dr. Beck, however, refused to furnish the Society with such information as was thought necessary by the President and some of the fellows to substantiate the case.

Dr. Crisp made some strong but just remarks on the time that some speakers in the Society occupied with what might be called mere hair-splitting. He objected also emphatically to the authors of papers referring constantly to their published works, and also to the delivery of a prepared speech, with the addition of a long written paper, by a speaker in a discussion, as had been done by Dr. Beck that evening. With respect to the use of the speculum, he thought we were not justified in neglecting it as a means of diagnosis under proper circumstances. With respect to the disease under consideration, there was no doubt an ulcerative or granular condition of the cervix uteri did exist; that it was treated with success by a few applications of the potassa fusa, and that the train of symptons connected with that condition of the uterus disappeared in consequence. With respect to the open state of the os, it might exist without inflammation, and he related a case of anteversion of the uterus, in which the mouth was open, but there was no inflammation.

Dr. Tilt spoke of the difficulty of diagnosing between mere erosion and ulceration, and mentioned a case in point; but in practice the distinction was not so important, as they required the same kind of treatment. With respect to a patulous condition of the os uteri, it at all events indicated that something was wrong. He agreed in the main with all that had been advanced by Dr. Bennet.

Dr. Barnes, in relation to the open state of the os uteri, did not regard it as necessarily pathognomonic of inflammation; it might exist as the consequence of fibrous tumours spreading into the cervix, and opening the os by mere mechanical pressure, or the open state might be the result of previous inflammation. He agreed, however, with the proposition of Dr. Bennett, that when it did exist local treatment would be required. He was surprised to hear Dr. Beck speak against examination of the virgin uterus when certain symptoms were present, seeing that he (Dr. Beck) had resorted to the practice in a case lately related to the Society. He (Dr. Barnes) had used the potassa fusa in four cases with the best results. He had followed Dr. Bennet in the Western Dispensary, and had therefore seen the same class of cases as those referred to by that gentleman in his work; and candour compelled him to bear his testimony that his observations carried out the correctness of those of Dr. Bennett in the main.

Dr. Henry Bennet, in reply, stated that Dr. Beck seemed so thoroughly to disagree with him in all his views on uterine pathology, that he thought it best to leave the questions raised in the hands of the members and of the profession. He would merely correct two or three of the many misrepresentations and inaccuracies into which Dr. Beck had fallen in the course of his criticisms. He would first, however, remind the Society that the anatomical details which he had given respecting the uterus were given on the authority of the first classical writers of the day, and represented the present state of science. If Dr. Beck or any other anatomist was able to throw any additional light on the subject, by bringing the microscope to bear on it, he would be the first to adopt the data thus obtained when once they were fairly established. No one could or did appreciate more highly than himself the great amount of labour and skill shown by Dr. Beck in his dissections of the uterus, and he could only regret the unmitigated opposition which he (Dr. Bennet) met with from Dr. Beck. He would briefly add, that he had never said or written that severe uterine disease was common in virgins, but exactly the reverse; that he had most positively given no case in his work in which a virgin female was examined because she had a slight pain in her back the first day of menstruation, and that on examining the uterus Dr. Beck had shown to the Society that evening, he did not see any evidence of an abnormally open state of the os uteri. This condition in inflammation he referred to paralysis of the muscular fibres that lay underneath the inflamed mucous membrane. This paralysis also occurred in acute bronchitis, giving rise to emphysema; and in enteritis, giving rise to tympanitis. Of course there were exceptions to the rules which he had laid down, as Dr. Crisp and Dr. Barnes had very properly said. What he had stated was merely that inflammation of the os and cervical canal opening the external orifice—an open state of the os as recognised by the finger—was a suspicious circumstance, which authorized further inquiry. A fibrous tumour, or pregnancy, or even cancer, might evidently render the os patulous without inflammation being present.

A Mirror

OF THE PRACTICE OF

MEDICINE AND SURGERY

IN THE

HOSPITALS OF LONDON, &c.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum, et dissectionum historias, tum aliorum proprias, collectas habere et inter se comparare'—Morgagni. *De Sed. et caus. Morb.* lib. 14. Prœmium.

KING'S COLLEGE HOSPITAL.

Erectile Tumour on the Heel; Deligation of the Femoral Artery; Amputation.

(Under the care of Mr. Fergusson.)

It has fallen to our share to see in this hospital a great number of operations for the obliteration of aneurisms by anastomosis, the principal method of treatment being the ligature, applied either in a simple or complicated manner, according to the size, shape, or situation of the tumour. We have been at some pains to describe a peculiar mode of using the ligature which has been introduced by Mr. Fergusson, and which has been found extremely efficient in promoting the complete casting off of the abnormal growths; but erectile tumours may present themselves of such an extent, of such long standing, and so highly fed by numerous arterial trunks, that the methods just alluded to—excision, pressure, caustics, setons, or vaccination—offer no chance whatever of success.

What is to be done, then, in cases where the whole or the greater part of a limb is involved in an extensively ramifying aneurism by anastomosis? The most secure way of saving life is certainly to amputate the limb; but before this extreme measure is resorted to, others of a milder nature may be tried; and among these tying the main arterial trunk, and endeavouring to sphacelate the tumour whilst the circulation is retarded by the deligation of the principal artery, is certainly a method which offers some chance of success. This mode of proceeding is not only reasonable in theory, but it has been followed, in actual practice, by favourable results; we well recollect having seen Mr. Avery, at Charing-cross Hospital, first tie the occipital artery for an erectile tumour of the scalp, and then obliterate that tumour by the ligature.

It would, however, appear by the following case, under the care of Mr. Fergusson, that erectile tumours, involving a great portion of a limb, are hardly amenable to such a treatment, and that amputation is the only way of saving life in such cases. It is, however, very useful to the science and art of surgery, that the milder methods should be fairly tried, actual data being thus obtained for the guidance of such surgeons as may hereafter have to deal with tumours of the same description. Aided by the notes of Mr. Luxton, house-surgeon to the hospital, we beg to offer the following sketch of this instructive case:—

William S——, nineteen years of age, of dark complexion, and bilious temperament, was admitted, Dec. 4, 1850, under the care of Mr. Fergusson. The patient has always enjoyed good health, and is seeking relief for a pulsatory tumour on the inferior aspect of the right heel, which prevents him from walking, by bursting out bleeding whenever he attempts to do so. From his birth there was always a red mark on the heel, which was constantly hot—*that* foot being *never* cold. Two years since an ulcer formed on the outer side of the foot, towards the heel: this lasted for one month; and three weeks before admission another ulcer formed on the sole of the foot; this was poulticed, and when he stood on it soon afterwards, it burst and bled; hæmorrhage happened again on the next day.

Mr. Fergusson, having been consulted on the case, advised the patient to come into the hospital. On admission he presented the following symptoms: A pulsatory tumour occupies the posterior and inferior portions of the heel, which tumour seems to cover the posterior tibial artery at its termination behind the inner malleolus. The affected leg, as far up as the knee, is much larger than the other, and the vessels of this limb seem likewise bulkier than on the sound side. *Pulsation can be felt in almost every muscular region below the knee;* the femoral artery itself beats with fearful vigour; the anterior and posterior tibial can be felt in almost their whole course, and there is a peculiar whizzing sound experienced on pressing the finger on the popliteal artery.

On the 11th of January, Mr. Fergusson tied the superficial femoral artery in Scarpa's space; the pulsation of the tumour, as well as the tension of the leg, immediately ceased. Mr. Fergusson, in addressing some remarks to the pupils after the operation, stated that in this case, the foot and leg up to the popliteal space were in a congested state; in the lower portion the enlarged vessels were superficial, whilst above they were more deeply seated. The skin had in several places given way, and the hæmorrhage had been fearful. When he (Mr. Fergusson) had first been requested to remedy this state of things, attention had been centred upon the foot, but it soon became evident that the whole leg was one spongy mass of an erectile nature.

It was clear that tying the posterior tibial artery would be of no avail, as the calf of the leg would not be benefited by this measure, and Mr. Fergusson thought it would be more advisable to place a ligature on the superficial femoral as a preliminary step; he would thus have gained time for dealing with the smaller vessels, and passing needles through the tumour on the heel for the purpose of obliterating it. In operating as he had just done, he (Mr. Fergusson) had been actuated by the wish of saving life and limb. The pupils might have remarked that when pressure was made on the thigh, both the congested calf of the leg and the tumour on the heel considerably diminished in size. Before the femoral artery had been finally tied, Mr. Fergusson had several times made pressure upon it, the effect always being that the calf of the leg and the tumour became quite spongy and entirely lost their tension. When the vessel had been deligated, the tumour sank completely, and the foot turned very pale, lax and cold.

On the next day the patient complained of much pain; he had had no sleep during the night; the foot was cold and numbed, and there was a burning sensation from the knee down to the calf; no pain in the wound. The patient can feel a pinch on the toes. Temperature as follows:—

	Sound Leg.		Diseased Leg.
Popliteal space	93½°		93°
Calf	96		93
Heel	92	Tumour	91
Between toes	94		86

Second day after the operation, four P. M: No pulsation in the tumour; the numbness in the toes continues; feels more easy.

Heel	91°	95°
Toes	92	81

Third day, twelve A. M: Has passed a bad night; great pain in the toes and foot, with alternating sensations of cold and heat in the leg; appetite bad.

Heel	94°	97°
Toes	98	88

Same day, half-past five P. M: Feels easier. There are patches of purplish discoloration over the tibia and dorsum of the foot.

Popliteal space	95°	95°
Heel	92	98
Toes	97	91

Fourth day: Does not sleep at all, but feels pretty easy; there was a slight oozing of bloody pus from wound in the thigh during the night; the patches are the same in extent or degree as before; pulsation has slightly returned in the posterior tibial artery, but not in the tumour; pulse 105, full and throbbing.

Popliteal space	93°	96°
Heel	95	93
Toes	97	97

Fifth day, four P. M: The pulse has now fallen to 98.

Popliteal space	94°	97°
Heel	92	97
Toes	96	89

Sixth day, Half past ten A. M: Has passed a better night. The patches are darker and more defined; slight oozing has occurred; pulse 90; tongue moist.

Popliteal space	94°	96°
Heel	92	96
Toes	98	92

Half-past seven P. M: The pain in the leg and foot is not so intense; pulse 102.

Popliteal space	93°	98°
Heel	99	97
Toes	96	82

Seventh day, half-past ten A. M: More pain in the leg and foot than previously; patches darker; another on the patella; pulse 96.

Popliteal space	91°	95°
Heel	90	95
Toes	95	90

Five P. M: More easy; tongue moist.

Popliteal space	95°	97°
Heel	97	98
Toes	93	89

Eighth day, half past ten A. M: Was much easier than last night.

Popliteal space	93°	95°
Heel	88	96
Toes	92	85

From the ninth to the fifteenth day after the operation the record was carefully kept; there was constant sleeplessness and pain; the patient could take but little of the nourishment which was allowed, and the temperature of the heel and toes was the lowest for the former on the eleventh day, when it descended to 92; and for the latter on the thirteenth day, when it was only 86.

On the thirteenth day, while straining at stool, the patient felt some blood trickling down the thigh, and saw it oozing freely from the wound. Mr. Luxton, the house-surgeon, compressed the artery and exposed the wound to the air, when coagulation took place, and the hæmorrhage was arrested.

On the seventeenth day after the operation, the patient stated that he had been in great pain the whole night, and had not slept; the pulse was full and quick, the tongue moist, and the bowels not open; the wound was not dressed for fear of disturbing the clot. On the twentieth day no sleep; the greatest pain is at the root of the toes and in the tumour; the latter is tender to the touch; bowels not opened for three days; pulse quick; appetite bad. The patient seems much weakened and exhausted with his sufferings and want of sleep; the wound made for tying the femoral artery has not been dressed since the bleeding first occurred.

On the twenty-first day the pain in the limb was very intense. On the twenty-third, the skin on the dorsum of the foot appeared of a brassy metallic hue, and the skin over the anterior sharp margin of the tibia very dark. There seemed to be a faint line of demarcation around the patella, and several livid vesications appeared on the leg. On the twenty-seventh day there was great heat and swelling in the tumour, and mortification invaded the whole leg; there had been a little bleeding from the wound in the thigh.

Mr. Fergusson, considering that there was now no longer any danger from secondary hæmorrhage, removed the thigh by the flap operation on the thirty-first day after the deligation of the femoral artery. The posterior flap was made long, and reached to the lower part of the popliteal space. Much blood was lost during the amputation, the stump seeming one mass of vessels. A portion of the femoral vein was dissected away; it was sufficiently large to admit Mr. Fergusson's finger; the artery was cut across, both ends secured, and a great portion of the sciatic nerve removed.

As the limb was in a very disorganised state, it was rather a difficult matter to obtain information as to the state of the vascular apparatus about the leg and foot. It was, however, clearly made out that the congeries of vessels which had fed the erectile tumour of the heel were derived from the posterior tibial artery, the anterior not having an evident connexion with it. The vessels of the calf of the leg were greatly enlarged, especially the veins. In the museum of King's College very accurate casts of both legs, before the deligation of the artery, are preserved; they form a very valuable illustration of the disease.

On the eighth day after the amputation, it was found that a small portion of the anterior flap had sloughed away; it corresponded to the portion of diseased skin over the patella. On March 13th, being about one month after the removal of the thigh, the bone was projecting in consequence of the sloughing of the anterior flap; it was therefore necessary that that portion of the bone which was partly necrosed, should be removed. Mr. Fergusson, whilst the patient was insensible from the effects of chloroform, re-opened the partially healed stump, and removed about one inch and a half of necrosed bone.

Mr. Fergusson stated that the stump would never have completely healed in the present condition, and that it would have been unwise to wait until the dead bone had been cast off by the efforts of nature. Nor did he (Mr. Fergusson) think himself open to blame for this protrusion of bone, for such a result will often occur with the greatest care and the most skilful management. The flaps were brought together, and cicatrization has since advanced at a very rapid rate, the stump being now almost healed, and the patient in a favourable state.

ST. THOMAS'S HOSPITAL.

Two Cases of Strangulated Femoral Hernia in Male Subjects; operations according to different methods; one death; one recovery.

(Under the care of Mr. Le Gros Clark.)

Is the sac, in operations for strangulated hernia, invariably to be opened, or to be respected by the knife? We doubt whether it would be safe to answer this question absolutely; much must depend on the peculiar circumstances and symptoms of a given case, and there may be some danger in adhering too firmly and too exclusively to any one method. This position has been lately very instructively illustrated, by two cases operated upon by Mr. Le Gros Clark, in the first of which he followed the plan advocated by Dupuytren, Sir A. Cooper, and others; and in the second, the rules laid down by Petit, Luke, &c.

Case 1.—*Operation by Opening the Sac.*—James M—— sixty-five years of age, a gentleman's servant, of spare make and temperate habits, was admitted into William ward, on Feb. 3, 1851. He stated that he had been the subject of a small rupture (crural) for forty years. It varied but little in size, and was never quite reducible. As it gave him no trouble, he never wore a truss. Three days before his admission, he was seized, without assignable cause, with pain in the abdomen; the hernial swelling increased in size, and vomiting and hiccough followed. Aperients were given, but rejected, the bowels remaining obstinately constipated. When the rupture was discovered, taxis had been employed in vain; and when the patient was admitted, symptoms of strangulated intestine had existed for nearly three entire days.

The femoral tumour (which extended over Poupart's ligament) was tense, acutely painful, and about the size of a goose's egg. There was some fulness of the belly, and uneasiness, rather than tenderness under pressure. The urgency of the symptoms, and the length of time they had persisted, indicated the necessity of affording prompt relief with the knife; therefore, after the taxis had been gently repeated for a few minutes in the warm bath, the operation was performed by Mr. Le Gros Clark, the sac being opened, and a very tight and sharp stricture divided in the usual way. The sac was much thickened; it contained a small quantity of limpid serum, and a considerable portion of omentum, spread out in front of, and completely hiding, a knuckle of intestine of a deep purple hue. The bowel was returned; but the omentum, being to some extent adherent to the anterior part of the sac, was left. The patient was ordered to be kept perfectly quiet, and no medicine was given.

In the evening he was restless, low, and sick. A little brandy and soda-water was ordered by the house-surgeon; the belly was fomented, and an enema administered, which was returned without fæculent matter.

On the following morning, (Feb. 4,) after an indifferent night, the patient's pulse rose to 112; face flushed; belly tympanitic, but almost free from tenderness; tongue moist; vomiting frequent. A second enema had brought away some fæcal matter in solution; an effervescing mixture was ordered, and light farinaceous food, as it could be taken.

In the evening of the same day profuse purging supervened; after which the patient expressed himself as feeling greatly relieved, and the abdomen became softer and less tumid, though the vomiting continued.

The wound was examined and found, on removal of the compress, in a healthy condition.

On the second day after the operation, the symptoms of constitutional disturbance and sickness continuing unabated, brandy was given in small quantities, with soda-water, and with arrow-root. This afforded relief, and some hours' intermission of the distressing vomiting. The lull was, however, delusive, for the sickness returned with increased violence, the matter rejected being dark in colour, profuse in quantity, and latterly very offensive. He died, much convulsed, on the morning of the third day, having survived the operation about sixty hours.

Post-mortem Examination.—But little fluid, and no lymph in the abdomen; a few specks of ecchymosis here and there on the intestines, but no signs of active inflammation. The strangulated bowel (a portion of ileum,) including the whole calibre, and about two inches in length was found occupying the position to which it had been returned at the operation, and was curved upon itself; some slight recent adhesions glued it to the neighbouring peritonæum. There was a considerable quantity of air in the intestine above this point, though the bowel below it was comparatively empty. The seat of strangulation was distinctly defined, and the appearance of the intervening intestine presented very nearly the same character as at the operation; it had not given way at any point.

Mr. Le Gros Clark remarked on this case, that it belonged to a class, unfortunately of too frequent occurrence in hospital practice, when the patient, either from negligence, obstinacy, or ignorance, suffers a disease of a fatal tendency to exist too long for operative interference to hold out much hope of saving life. The same cause operates indeed prejudicially in private practice, though to a less extent, the motive for concealment (principally among females) having a different origin. Such being the fact, the difficulty of arriving at statistical conclusions by which justice can be done to the operation for an irreducibly strangulated hernia, is very great. Few surgeons would, however, deny the assertion, that if had recourse to at an earlier period, operations would present a far less extensive catalogue of fatal issues.

There was very little difficulty in referring the present to a large category of cases—viz., those in which a second hernial protrusion is suddenly superadded to one (generally omentum) of long standing, and frequently neglected or scarcely noticed. This condition had been predicted from the history of the case. Mr. Clark observed, further, that he did not attach the same importance that many did to the exposure of the peritonæum and contents of a strangulated hernial sac, as he believed the serous membrane, already the seat of a morbid action, was far less susceptible of such influence as the presence of air than it is when performing its functions healthily. He (Mr. Clark) considered the noxious consequences ascribed to this cause, as due to other and not less palpable causes, whilst he deprecated any but the gentlest handling of the exposed parts. Peritonitis is not so commonly connected with the fatal termination of this class of operations as has been affirmed by many. Active inflammation, as in the present instance, is often found altogether absent, or its amount and products are by no means sufficient, alone, to account for death.

The active purging in the above case was probably, in great measure, due to purgatives taken before the patient's admission; in part, perhaps, to the saline mixture prescribed to allay the sickness. Be that as it may, the temporary relief experienced was considerable, though probably it may have operated, from its severity, prejudicially on the patient. Altogether, the case was a perplexing one as regards treatment, and its prognosis from an early period unfavourable. Mr. Clark thought that in this as in similar cases the mischief done to the intestine may be classed, in its general effect, with violence and lesion sustained by the spinal cord. The restorative powers of nature are unequal to the task which is set them; the relief of the strangulation is sufficient, at such a crisis, to arrest the actual death of the part; but no attempt at restoration of healthy function is made. The wave of peristaltic movement flows rhythmically onward till it reaches the affected part, and then is reflected on itself till it returns to the stomach, whence the contents of the bowels are forcibly ejected.

Whether in the present case this torpid condition of the affected intestine were passively overcome during the purging, Mr. Clark did not pretend to say; probably so. The folding of the intestine, as it lay within the abdomen, was certainly insufficient to have interfered with the active propulsion of the contents of the bowel in either direction.

The matter vomited was of that common character designated as "coffee-grounds" in appearance. It did not appear to partake of a fæcal character at any time, though offensive at the last. It was probably in great measure poured out from the surface of the mucous membrane.

Case 2.—*Operation without opening the sac.*—Thomas G., fifty-nine years of age, a sawyer, healthy and temperate, was admitted into William ward, on Sunday, March 16, 1851. He stated that he had been the subject of rupture for twenty years, that he had worn a truss habitually for a long period, but had thrown it aside during the last three months. The hernia came down during the day, but was always readily reducible. On awaking at six A.M., on the morning of his admission, he became conscious of unusual uneasiness about the rupture, which, on feeling, he found larger than usual, tender, and irreducible. Through the day, the tenderness of the tumour and abdominal uneasiness (especially referred to the lower part) became more distressing; but there was neither sickness nor hiccup. The bowels had acted about seven A.M.

The warm bath, with taxis, were tried on his arrival at the hospital in the middle of the day, and an injection, which was administered by Mr. Le Gros Clark's direction, was returned without any solid fæculent matter. When Mr. Clark saw the patient at nine P.M., the tumour, which was about the size of an orange, was full, but soft; it was a femoral rupture, and lay above Poupart's ligament: very tender when handled, and no impression could be made by the taxis, in varied positions of the body, pulse quiet. Mr. Clark determined at once to operate, and considering the present a favourable case for dividing the stricture without opening the sac, and as offering many features of marked contrast to the one just reported, though the same form of hernia, he proceeded as follows:—A perpendicular incision was made by piercing the skin, the centre of the cut corresponding to the upper border of the tumour, and rather to its inner side. Mr. Clark readily reached the crural ring, and had but little difficulty (without *seeing* the sac) in dividing the anterior margin of Poupart's ligament, passing the hernia knife along the forefinger. It was expected that the taxis would be immediately effectual, but it was otherwise; no impression could be made on the tumour.

On searching carefully, Mr. Clark felt, about half an inch from the crural ring, two or three delicate tendinous bands, stretched, like horsehairs, across the neck of the sac, and he found it necessary to expose the sac in part, in order safely to pass a director beneath these bands. It was not until the last was divided that the contents of the sac yielded, and then they passed up readily. There was some difficulty in retaining the protruded bowel after reduction, for the sac was large, and the size of the crural ring (even before extension with the knife) much greater than usual. The sac was not opened.

The wound was closed with a suture; and a compress confined by a bandage round the thigh and pelvis, was applied firmly over the crural ring. Farinaceous diet. No medicine.

On the following day the patient was quite comfortable, though there was some little reaction, as evidenced by a flushed face and quickened pulse. Some uneasiness, but no tenderness, was felt over the lower part of the abdomen; owing to a troublesome cough, it was difficult to keep the hernia up when readjusting the bandage; otherwise the patient went on favourably.

On the third day there was a blush of inflammation extending from the wound over the crest of the ilium, for which a light bread-poultice was applied; and as the bowels had not been relieved, a dose of castor-oil and some compound squill pill, to relieve the cough, were ordered. On the fourteenth day from the operation the patient was convalescent, and the wound nearly healed.

Mr. Clark remarked on this second case, that it offered some interesting points of contrast with the preceding; he regarded the two cases as constituting each a type of that class which should be subjected to the different forms of operation adopted. In the second, there could be no reasonable ground for apprehending other than a favourable result of the operation which was adopted, inasmuch as the symptoms were not of that urgent character, nor had the strangulation of the bowel existed sufficiently long to countenance the opinion that any serious change had taken place in the contents of the sac. It might be urged, Mr. Clark remarked, that perhaps the operation was unnecessary; but such opinion could not be entertained by any one who had witnessed the unsuccessful effort at reduction by the taxis, or had felt the tight, contracted character of the stricture.

He (Mr. Clark) observed further, that the operation offered an interesting illustration of the practical value of Mr. Luke's remarks on the subject of Petit's operation, in a paper read by him before the Medico-Chirurgical Society, and published in their *Transactions*. The present case was an exact illustration of a class referred to by Mr. Luke, in which the seat of stricture is clearly independent of the crural ring itself. Mr. Clark expressed his opinion that no good was effected by the division of Poupart's ligament in this instance, and that a division of the strangulating bands described would have effected all that was required.

ST. BARTHOLOMEW'S HOSPITAL.

Enchondroma.

(Under the care of Mr. Lloyd.)

A very unfortunate circumstance connected with the growth of various kinds of tumours is the unwillingness of patients to apply in the proper quarter, from the vague fear of having to submit to a surgical operation. Months and years are allowed to pass, and when either the size of the tumour, or the inconvenience produced by its presence, compels the sufferer to seek the assistance of the surgeon, the constitution has been already so deteriorated either by pain, anxiety, or the very principle which originally caused the growth of the tumour, that removal either of the latter, or of the whole limb, becomes hazardous, and is mostly attended by fatal consequences.

A very striking example of such an imprudent delay lately occurred in one of Mr. Lloyd's patients; here a tumour, the nature of which was originally simple and non-malignant, was allowed to grow to a very large size, until it rapidly passed into a state of degeneration, which necessitated the removal of the limb, at a time when the patient had been thrown into such a state of health, and the greater part of the limb into such a condition, that but a very slight chance of success could be expected. It will be perceived by the sequel, that this case presents features of great pathological interest, as the nature of the tumour was accurately ascertained, its growth, size, seat, and modifications, presenting nevertheless very striking exceptions respecting the generally received notions of enchondromatous tumours. The following outline is founded upon the notes very accurately taken by Mr. Fletcher, the dresser of the patient.

Lucy B——, aged fourteen years, was admitted into Lucas' ward on the 7th of December, 1850, under the care of Mr. Lloyd, with a large enchondromatous tumour, situated in the right leg, measuring twenty-seven inches in its greatest circumference, and extending from the knee to the ankle. The tumour was generally hard, but in parts it communicated to the finger an elastic feeling and a sense of obscure fluctuation. The skin covering this extensive growth was extremely tense, and of a purplish-red colour; about the middle third of the leg, at its inner aspect, were a few projecting tubercles of dark colour, which much resembled some fungoid or melanotic tumours about to ulcerate. In the upper portion of the swelling, and beyond the middle of the thigh, an emphysematous condition of the cellular tissue existed, and the femoral glands were much enlarged.

The disease had commenced eighteen months ago; the patient perceiving at that time a swelling about the size of an egg over the inner belly of the gastrocnemius muscle. She could in no way account for its formation, never remembering to have received a blow or sustained any other injury. The swelling occasioned a dull aching pain in the surrounding parts, which however soon subsided. The tumour gradually increased, at first slowly, but during the last six months with great rapidity.

Notwithstanding the large amount of disease from which the patient had been suffering, her constitutional powers had remained good until *two days* previous to her admission, so much so that she was able to walk about with but little pain or inconvenience. The tumour was then punctured with a grooved needle by a private practitioner, this measure yielding a jet of blood. On that evening (Thursday, 5th of December) she became feverish, the leg extremely painful, and these symptoms continued with increased severity up to the time of her admission. She presented the appearance of a person exhausted by suffering, her countenance being indicative of great pain, accompanied by depression of the vital powers. Her skin was hot and dry; tongue brown, furred, rather parched; and pulse very rapid, being about 140 to the minute.

Such being the state of the patient, it was very palpable that, unless some proceedings were adopted, death would inevitably and quickly ensue. A consultation was forthwith held, and immediate amputation decided upon.

Chloroform having been administered to her in the ward, she was removed to the operating theatre, and the thigh amputated at the middle-third by the circular operation. When the first incision was made, a kind of crepitation was distinctly felt under the knife; a large quantity of fœtid air poured out of the cellular tissue, and the effluvium thus arising was very offensive. There was a large quantity of blood lost during the amputation; eight or nine arteries were secured by ligature, as well as the femoral vein, which bled very freely.

When removed to her bed, the patient was so much exhausted that it was necessary to give her wine and brandy. In a short time, however, she rallied materially, and stated that she was much more comfortable than before the operation, and was glad the leg had been amputated. Her pulse was fluttering and intermittent. No medicine was prescribed, but stimuli were ordered to be given occasionally. In the evening she was going on well, and expressed herself free from any pain or uneasiness.

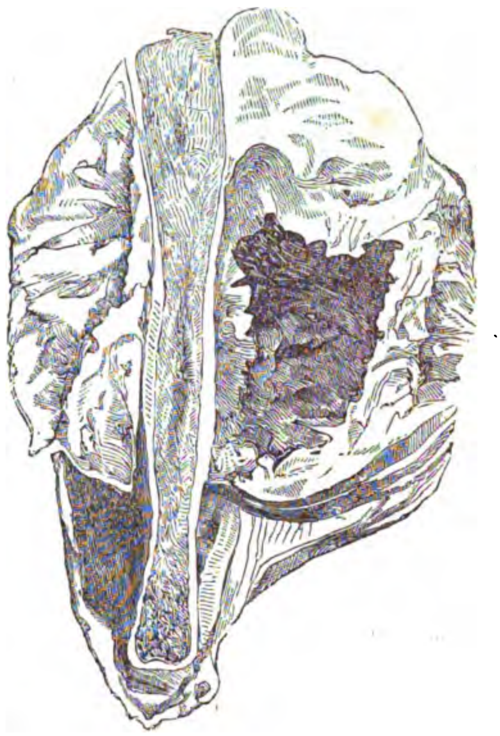
For the first four days the patient progressed very favourably. On the fifth, abdominal uneasiness was complained of: castor oil and beef-tea were ordered: and there being symptoms of gastro-intestinal irritation on the sixth day, Mr. Lloyd prescribed ten drops of liquor potassæ, in almond-mixture, to be taken three times per diem. Great improvement took place; but on the ninth day after the operation an erysipelatous blush appeared on the outer side and extremity of the stump; this blush soon extended to the inner part of the pudenda, and feverish symptoms ran high. Mr. Lloyd adopted energetic measures: mercury, opium, a blister on the abdomen, and alkalies were had recourse to, with apparent success. The patient improved for a short time. The parts first affected with redness and swelling showed symptoms of resolution, but the *wrist* became red and painful, and tenderness was complained of when other parts of the body were touched. The patient gradually sank, and died on the thirteenth day after the operation, the respiratory organs having been unembarrassed during the whole time.

No general autopsy could be obtained, but the stump presented the following appearances:—The bone was very prominent, the soft parts having receded. On cutting through the muscles, two small collections of pus were discovered: one was situated on the outer side, near the end of the stump; the other higher up, close to the femoral vein. The latter vessel was contracted, and its cavity filled with coagulum, lymph, and pus. The inflammation did not, however, extend beyond the point where the femoral vein is joined by the saphena. The artery and nerves were healthy, and there was no evidence of inflammation of the subcutaneous cellular substance. The glands in the upper part of the thigh, which were enlarged on admission, had subsided considerably since the operation, and appeared to be undergoing a change of structure.

During the progress of the case there was no evidence of disease existing in any important organ sufficient to account for death. The cerebral functions remained undisturbed; the lungs and heart performed their functions normally; the stomach to the last received food without repugnance, and the bowels and the bladder acted regularly. But notwithstanding all these favourable circumstances, something appeared to be operating in the system as a poison, so as to weaken and gradually destroy the vital powers. The condition of the stump was daily, during life, carefully investigated, but at no time was there any morbid condition discoverable adequate to produce any serious consequences.

The enchondromatous tumour was examined after the operation, but we delayed giving a description of the pathological appearances in order not to interrupt the chain of facts connected with the case. We beg now to offer a few particulars regarding the tumour, which was dissected with especial care, and of which the annexed engraving represents a section.

The tumour was situated around the upper two-thirds of tibia: in the front, it was attached to the bone as high as the insertion of the ligamentum patellæ; behind, it reached to the very margin of the articular surface; and in its growth away from the bone it ascended an inch above each of these levels. The tumour had grown between the periosteum and the shaft, in their whole circumference; and its chief mass was on the posterior part of the tibia; below, it was easy to trace the periosteum from the shaft of the bone to the surface of the tumour; above, they were confused. Nothing like cartilage appeared within the shaft or head of the tibia. The surface of the bone on which the tumour rested was uneven; in parts appearing wasted or eroded with this tumour set on its deeper layers; in others, that same surface seemed covered with new bone, growing as if from it into the adjacent part of the tumour. This latter peculiarity was especially noticeable at the upper and posterior, and at the lower and anterior, parts of the tibia. The whole texture of the shaft appeared healthy.



The bulk of the tumour had, probably, been purely cartilaginous, but three-fourths of it were now either softened, or liquefied, or in a state of suppuration and sloughing; cartilage in its solid or natural state remained only in the upper fourth, and in the circumference of the mass. The lower three-fourths presented a wall of cartilage round an irregularly intersected, cavernous, suppurating, and sloughing cavity. Most of the cartilage in the upper fourth of the tumour was bright, pinkish, and bluish-white, consistent, brittle, short, glistening, and like fœtal cartilage. In this portion, many small scattered deposits, or formations of yellowish cancellous bone, were seen, some of which were continuous with the cancellous structure of the head of the tibia, where its compact layer was gone. The rest of the cartilage which formed the boundaries or walls of the suppurating cavity of the mass, was soft, diffluent, greenish, or dirty-yellowish, as if half putrid.

The bands and irregular processes that intersected the mass, and made it cavernous, were still softer, and many of them rotten and sloughing. The toughest of them were evidently what had been the intersecting partitions of a multilocular mass of cartilage; and most of these extended outwards, branching from the bone towards the wall of the cavity. The general construction of the cartilage was in lobes, made up of small spheroidal nodules, from a quarter to half an inch in diameter, close packed, and having in many instances small central cavities. The partitions between the lobes were thin, and of fibro-cellular tissue. The tumour measured ten inches from above downwards; nine from before backwards; and about seven from side to side.

The muscles and other tissues were stretched tensely over the tumour, but appeared healthy in their texture. The fibula was expanded over it and curved; at one part it measured three inches in width, and here the tumour had grown quite *through* the bone, and had made for itself an aperture an inch wide, which appeared formed by gradual absorption.

The microscopic examination showed that the tumour was throughout formed of cartilage; but it presented many modifications, for certain nodules, though situated close to each other, and maintaining the general characters of cartilage-cells, presented many varieties of structure.

Two questions of vital importance at once arise from the consideration of the preceding case. 1. Could this enchondromatous tumour have been safely removed in the early stage of its growth? 2. What is the cause of the rapid degeneration of the tumour? We are much inclined to believe that an early extirpation would have saved life and limb, because the growth belongs to that kind of enchondromatous tumours which are formed on the surface of the bone, and covered by periosteum, without involving the bone itself; and that the simple ablation of the tumour, without any removal of bone, would have sufficed. As to recurrence, Professor Miller says, in his "Principles," "If removal be complete, reproduction need not be anticipated."

As to the second question, we find it stated in the same work, that in enchondromatous tumours "there is little tendency to degeneration; but some cases, though few, are on record, in which degeneracy seems to have begun, the interior of the tumour softening and breaking down." The present case has therefore to be ranked among the "few" which run into degeneration; but we are much mistaken if it does not present an almost solitary instance of very rapid destruction. Had the puncture, made before admission, anything to do with this? No decided answer could be well given to this question; it might, however, be observed, that such rapid degeneration is not likely to have taken place without some inflammation, and as inflammation is generally accompanied by pain, and the patient complained of none *before* the puncture, the latter might be looked upon as somewhat instrumental in the results. But it should be noticed, on the other hand, that many tumours have been punctured without the measure giving rise to inflammatory phenomena.

The last pathological features to which we beg to direct attention are—first, the great expansion which took place in the fibula; and second, the aperture which the continued pressure of the tumour worked in the head of that bone.

Ascites following Ague, treated by Dr. Warburg's Tincture.

(Under the care of Dr. Burrows.)

(Notes by Mr. Langdon.)—Johanna C——, aged thirty-two, was admitted into St. Bartholomew's Hospital on February 6, 1851, under the care of Dr. Burrows. In the autumn of last year, whilst residing in Essex, she had an attack of tertian ague, which lasted a fortnight, and readily yielded to treatment. She returned to town, and two months ago (a fortnight after her confinement) she was attacked with sharp pain on the right side, about the margin of the ribs. This lasted about eight days, but she had no medical advice, merely took aperient medicine with much relief. From that time the patient observed that her abdomen increased in size, and grew very large. About a fortnight ago attacks of shivering occurred daily at two o'clock P.M., lasting about an hour, but not followed by the other stages of ague. She is a married Irishwoman, the mother of two children, and her only employment her domestic occupations. Her countenance and skin are natural; pulse 92, small and soft; tongue clean and flabby; appetite good; bowels constipated for two days. The abdomen is swollen, rather tense, and tolerant of pressure; there is a distinct sensation of fluctuation, and dulness on percussion in the most dependent part, changing with position. No tumour or enlarged viscus can be discovered. She was ordered the common purgative draught.

The patient was freely purged, and was ordered, on the second day, a drachm of Warburg's tincture, to be taken every third hour. The urine had been tested: it contained no albumen, was clear, but with some slight deposit of phosphates by heat. On the third day it was found that the patient had perspired freely, and the urine gave no deposit by heat. The tincture was continued at the same intervals. On the fourth day the diaphoresis was still very copious; six doses had been taken on the previous day; the patient slept well; the alvine evacuations were relaxed, and the urine abundant. On the fifth day the perspiration was less profuse, the stools the same as before, the urine plentiful, and the fluctuation in the abdomen less distinct. On the sixth day it was ascertained that full four pints of urine was passed in the twenty-four hours; some griping was complained of; and as it continued on the following day, the tincture was discontinued. The patient improved very rapidly in every respect, and was discharged on the nineteenth day after admission, the abdomen yielding no sensation of fluctuation, and the patient stating that it had returned to its natural size.

GUY'S HOSPITAL.

Original Injury to the Urethra followed by Stricture and Subsequent formation of Calculus.

(Under the care of Mr. Cock.)

It is sometimes a matter of difficulty to discover the origin of stricture, and though gonorrhœa and injections are commonly accused of having caused the mischief, it would appear, on close examination, that the narrowing of the canal of the urethra may be brought about in several other ways. It is very likely, that whatever tends to excite inflammation in the genito-urinary mucous membrane may lay the foundation of stricture; if this be true we venture to say that excessive sexual intercourse, and the abuse of alcoholic liquors and condiments, should be mentioned more frequently in relation to stricture than they generally are. And as to injections, it should be noticed that they in general assist in curing gonorrhœa pretty quickly, and as a long continuance of the disease keeps the mucous membrane in a state of chronic inflammation, gleet could be much more reasonably accused of occasioning stricture than injections. The latter, in fact, contribute largely in rendering gonorrhœa of short duration, and prevent chronic inflammation, the cause of so many strictures.

If difficulties are encountered in conquering ordinary stricture, the task of remedying traumatic narrowing of the urethra is no less troublesome; for when that canal has sustained an injury which leaves a cicatrix, very tight coarctation is almost inevitable, as it is the nature of a cicatrix to contract. Mr. Cock had lately a case of this description under his care, which subsequently became complicated with calculus, and as symptoms of stone appeared but a few years after the stricture had become very troublesome, the thought suggests itself that stagnation of the urine in the bladder, and the chronic inflammation of the mucous membrane of that viscus, may be conducive to the formation of calculus. Indeed, it is not incorrectly supposed, that in such cases the mucous membrane secretes the phosphates which eventually form the stone. The presence of a calculus, which has descended from the kidneys, may cause irritation and inflammation of the lining membrane of the bladder, and is then to be looked upon as a *cause* of the symptoms; whilst, on the other hand, chronic inflammation of the bladder may promote the formation of a stone which has no renal origin, and which then becomes an *effect* in the chain of phenomena. The facts which we are going briefly to narrate will be strongly illustrative of this position, and we beg to direct attention, among the various particulars of this case, to the striking difference which exists in the healing of a traumatic fistulous opening of the urethra and that which results from abscess.

James S——, aged forty-three, was admitted into Luke's ward, December 11, 1850, under the care of Mr. Cock; he is a gardener, has been married twenty years, and had always enjoyed good health. Thirty years ago he fell astride a palisade, a spike of which entered the perinæum just below the scrotum, and was said to have divided the urethra. For some weeks all his urine escaped by the opening, but after the introduction of an elastic catheter the wound gradually contracted and closed in three months.

From this period the patient dates a stricture; and ten years after the occurrence of the injury, a gradually increasing difficulty in micturition ended in total retention, which was relieved by the reopening of the original wound, through which the urine continued to pass for ten weeks. A catheter was then introduced, *the wound again healed* and has since remained closed. The patient has managed to keep his urethra tolerably permeable by frequently passing a small-sized silver catheter. During the last few years he has suffered from increasing pain, intolerance, and irritability of the bladder, great difficulty in voiding his urine, copious secretion of mucus—presenting, indeed, a train of symptoms which might be explained either by the existence of a stricture or the presence of a calculus.

His health, however, still continued good, and he does not appear to be the subject of any organic disease.

On examining him the day after his admission, Mr. Cock found the perinæum much altered by the effects of the original injury, which had apparently destroyed some of the normal tissues of the part. The distance between the scrotum and the anus was considerably shortened, and the site of the wound was represented by a somewhat puckered and indurated cicatrix, the surface forming a depression and indentation just below the scrotum, instead of the usual convexity.

Mr. Cock attempted to pass a catheter, but found it impossible, the perinæal portion of the urethra having been apparently out of its course and thrown into curves by the contraction of the wound during the process of healing. The patient was then desired to pass his own instrument, which he had lately been in the habit of using almost daily. He accomplished this feat in something less than ten minutes, and it was effected by turning, twisting, and wriggling the instrument in every direction, causing its handle to perform every imaginable evolution, and describe all possible arcs of a circle, after a fashion as difficult to describe as to reconcile with prescribed surgical rules and ordinances.

The catheter once in the bladder, the presence of a calculus was immediately ascertained; and the dulness and feeble resonance which its percussion conveyed to the head, together with the quantity of ropy mucus contained in the urine, left very little doubt as to its being principally composed of phosphate of lime, soft and friable in its texture.

Mr. Cock considered that the diseased condition of the bladder, and the probable character of the calculus, as well as the contracted and irregular state of the urethra, rendered this case unfitted for lithotrity, both as regarded the performance of the operation and the subsequent evacuation of the broken-down fragments. As it was desirable to get rid of the stone as soon as possible, measures were at once taken to prepare the patient for the operation by the knife; and Mr. Cock, having with some difficulty succeeded in introducing a small, flexible catheter, he directed that the instrument should be retained, and that the bladder should be frequently injected with warm water. A small quantity of the latter fluid was allowed to remain in the viscus, with a view of preventing the walls of the bladder from contracting on the stone.

The patient derived much comfort and ease from this plan of treatment; the irritation and pain was diminished, and the quantity of mucus visibly lessened. The catheter was daily changed for one of larger size, and in six days the urethra was sufficiently dilated and straightened to allow the introduction of a full-sized straight-staff.

On the 17th of December Mr. Cock cut into the bladder in the usual way, and readily seized the calculus, which, however, broke up as it was being drawn through the aperture in the prostate gland, leaving numerous portions and fragments behind. A few of the largest of these were extracted by successive introductions of the forceps. For the purpose of clearing the bladder from the debris which remained in it, Mr. Cock introduced an elastic enema tube through the incision, and injected several ounces of water; while at the same time Mr. Hilton, with his finger in the wound, pressed on the prostate, and prevented the exit of the fluid until the bladder became filled. The finger and tube were then at once withdrawn, and the gush which took place completely emptied the viscus of all the remaining fragments.

The patient was put to bed but little the worse for the operation, which he underwent with great fortitude and calmness. Chloroform was not administered, as he expressed no wish to be placed under its influence.

The progress was very satisfactory for the first week, and Mr. Cock was induced then to discharge the patient, as erysipelas was reigning in the ward. Tidings have since been received, whereby it is found that the case is ending very favourably.

Cases of Typhus and Ague treated by Dr. Warburg's Fever Drops.

(Under the care of Dr. Babington.)

We noticed, during the last few weeks, that several physicians of metropolitan hospitals were putting to the test a tincture of Dr. Warburg, which is held to possess an almost unfailing efficacy in various kinds of fever, and especially intermittents. We were naturally led to inquire into the history of this remedy, as its virtues were much extolled, and because the trials were conducted by some of our most respected physicians. We had first to surmount the instinctive distrust which all regular practitioners feel for secret remedies; herein we were greatly assisted by the fact that the tincture is being introduced to the notice of the public under the auspices of the profession; that Dr. Warburg is furnishing large quantities of it gratuitously, for the purpose of getting it fairly tested; and that

James's powder and Battley's sedative solution are not the less efficacious for their composition being unknown.

The tincture has been for several years before the medical profession in various parts of the globe; and it would appear that it has maintained its ground in a very satisfactory manner, particularly for the rapid cure of intermittents, wherein it is stated to be superior to quinine. It is said to have likewise great control over typhoid fever, icterus, &c.; but its powers are most conspicuous in ague. In referring to a pamphlet by Sir Andrew Halliday, "On the Sickness and Mortality in the West Indies," published in 1839, we find passages bearing upon the fever drops, which will throw some light on the subject. Sir Andrew, after stating that the quinine had failed in Demerara, says, (p. 21) "I was induced to have recourse to a remedy which had already become known in the colony, and was much talked of as Dr. Warburg's fever drops.... These, the docter assured me, were prepared from plants, the virtues of which he had ascertained during his sojournings with the native tribes.... It was administered in about fifty of our worst cases, and under my own eye, with the most perfect success."

The medicine has since that time travelled far and wide; it was found very useful in our eastern possessions, and has been since introduced into the Austrian Pharmacopœia. We beg to present the following cases to our readers, in order that they may become acquainted with the usual effects of the remedy, and to facilitate any further inquiries they may wish to make. The value of the medicine must, however, be determined by a more extended series of facts than our limits will allow us to enter upon. We leave this task to the discoverer himself, and subjoin some cases from Guy's and St. Bartholomew's Hospitals.

Case 1. *Typhus.* (Notes by Mr. Eldrid.)—John E——, aged sixteen; ill seven days; was admitted into Job ward, Jan. 22, 1851, under the care of Dr. Babington. He had all the symptoms of typhus, with profuse diarrhœa, and subsequently large evacuation of blood.

He was treated by astringents, wine, &c., for about a fortnight, the symptoms being a little improved by the treatment. Muttering was still going on, though the diarrhœa and evacuation of blood had ceased, when he was given Warburg's tincture—thirty minims every fourth hour.

Two days afterwards there was an evident change for the better—the tongue became more clean and moist, consciousness increased, and the bowels were opened but once a day; the patient passed good nights; the skin was moist; and there was decidedly less pain over the abdomen on deep pressure. On the ninth day after the use of the tincture had been begun he was fast convalescing, and was discharged a few days afterwards, having taken some carbonate of ammonia for a short time.

The tincture was tried in an inveterate case of chorea; it seemed to act beneficially for some days, but the improvement did not last. It was likewise tried in a girl with icterus, and seemed not to influence the disease.

Case 2. *Quotidian Ague.*—Margaret H——, aged forty years, a strong, swarthy-looking Irishwoman, with black hair and eyes, was admitted into Lydia ward, March 26, 1851, under the care of Dr. Babington. The patient lives at Wapping, and is in very poor circumstances; she is married, has had seven children, and has been ill five weeks. Three weeks ago she was attacked with rigors, pains in the head and limbs, and a week afterwards the shivering fits occurred regularly every second day; for the last seven days she has had them every evening. The fits had first come on at about one o'clock in the day, but they had gradually appeared later, and on admission seized the patient at about five in the evening. The catamenia are regular; the bowels confined; there is pain over the region of the liver and spleen, headache, and cough; tongue coated and furred; pulse 89, compressible; urine dark. She was ordered a dose of aperient medicine, and to take the Warburg tincture early the next morning: half the bottle to be given after breakfast, the other four hours afterwards. (The whole bottle contains about an ounce.) Before taking the tincture on the next day, the patient had a violent fit, followed by the sweating stage. The medicine was regularly administered, and on the following morning the fit was very slight.

From this period the patient remained quite free from ague and is progressing very favourably.

ROYAL FREE HOSPITAL.

The Treatment of Strictures of the Urethra with Mr. T. Wakley's New Instruments.

(Reported by W. Tindale Robertson, Esq., Resident-Surgeon.)

No apology, I think, need be offered for introducing the following cases to the readers of The Lancet, illustrating, as they do most clearly, the benefit to be derived in this common and frequently intractable disease from the judicious use of the new stricture-instruments. At the present time especially, when a controversy is going on upon the subject, and the exponents of different plans of treatment are urging their views upon the attention of the surgical world, it is an imperative duty to put upon record facts, which will, I think, convince the most sceptical that the plan of treatment recommended by Mr. T. Wakley is expeditious, comparatively painless, and most successful in its results. I presume that, from the Report of the Medical Society and the able notice of the use of the instruments in the "Mirror of the Practice of Medicine and Surgery," the construction and method of using them are generally understood.

They may shortly be stated to consist of a small silver catheter, No. 2 of the ordinary size, over which are adapted to slide with the greatest accuracy, several others, each a size larger than the one previously used. After the introduction of the small catheter through the stricture, an index rod is screwed upon the end, and Nos. 3, 4, 5, &c., are successively passed down over its directing surface, and consequently *through* the stricture. After a sufficient number has been passed, an elastic canula is sent over the index-rod and catheter into the bladder; the catheter being removed, the elastic canula remains in the bladder, and is secured by tapes in the ordinary manner. Thus, at the next visit of the surgeon, the catheter is re-introduced through the flexible tube with the greatest facility, and dilatation may be still further proceeded with. It is necessary to observe that all the following cases (except two) were treated as *out*-patients; of course, if the patient can be confined to the house, and subjected simultaneously to proper antiphlogistic treatment, the cure will be effected with greater expedition and certainty.

Stricture of Eight Months; rapid Recovery.

Case 1.—Thomas P——, aged fifty-six, labourer, Phœnix-street, Somers-town, admitted as an out-patient under the care of Mr. T. Wakley, Jan. 31st, 1851. Has had stricture for some months past, but during the last four months it has been gradually getting worse. He passed urine more than twenty times a day, and to use his own words, "his life was wearisome to him." The stricture was situated at the membranous portion of the urethra, and was very dense and unyielding.

Jan. 31st.—The tubes were carried to No. 5.

Feb. 4th.—Tubes carried to No. 8. Says he is wonderfully better.

7th.—No. 10 passed.

11th.—Gum elastic (largest) was passed. He feels as well as ever he did. Discharged, cured.

Stricture of Fifteen Months.

CASE 2.—Thomas B——, aged forty-six, soda-water maker, Middlesex-street, Somers-town, admitted as an out-patient under the care of Mr. Wakley, Feb. 1st. Has had a stricture fifteen months, which latterly has been getting smaller. It took him, he said, four hours sometimes while his urine dribbled from him, and he has often laid and rolled on the floor with pain. At times a great deal of "corruption" came with his urine, and he then used to feel easier. Mr. Wakley was nearly twenty minutes in introducing the directing catheter.

Feb. 4th.—Nos. 3 and 4 canulæ were then passed over it with ease.

7th.—Nos. 4 to 8 were passed to-day.

11th.—Nos. 8 to 10 silver canulæ were passed, and the largest elastic catheter was also passed to-day, and kept in the bladder twenty minutes.

18th.—Has a cough and cold, but his stricture is quite well. (The suffering of this patient has been intense, and he was proportionately grateful for his speedy recovery.)

Stricture of Fourteen Months.

CASE. 3.—George W——, aged twenty-six; canvasser; Model Lodging Houses, Bloomsbury; admitted as an out-patient, Feb. 4; had a severe gonorrhœa four months since, which was treated by injections, and followed by his present complaint. His urine dribbles and is much twisted when he strains to force it quickly. The stricture is in the membranous portion of the urethra. No. 4 silver canula was then passed with ease.

Feb. 7th.—Considers himself greatly improved. No. 8 passed.

11th.—No. 10 silver canula passed. Discharged cured.

Stricture of Three Years. Syphilitic Psoriasis.

CASE 4.—George M——, draper; Gower-place, New-road; aged twenty-six; has suffered from this stricture for three years; it came after an attack of gonorrhœa which he neglected, and "allowed to run itself out." He has also had syphilis, and is under treatment for the secondary eruption. The stricture is very tight, and the guiding catheter was only passed after some time and with much difficulty. The canulæ up to No. 6 were then passed without pain.

7th.—He has had a good deal of pain since the last report. The stricture is still tight; and the index catheter difficult to introduce. Canulæ 7 and 8 were passed.

11th.—Has had less pain since the 7th, but complains of aching pain in the testicles. Canula 10 was introduced; it gave him no pain except at the orifice, which is very small. Is much better; can hold his urine much longer than before. The index was passed with *ease*, as were the other numbers up to 7; the orifice is still rather sore. This patient is still in the hospital, under treatment for psoriasis; he now passes his urine in a good stream.

Stricture of Three Years; Incontinence of Urine.

CASE 5.—J. S——, groom; aged thirty, from Brighton; was admitted on the 7th of January, under the care of Mr. Gay, suffering from two strictures, one anterior to the bulb, the other in the membranous portion of the urethra. He has been a very intemperate man, and has not been treated since his first attack, which he dates from a bad attack of gonorrhœa three years since, which was allowed to pass into a gleet, and was aggravated by his being much on horseback. He passes urine (mixed with much mucus) by drops, and cannot hold it for more than five minutes at a time. He is much worn by his complaint, and suffers from frequent rigors, constant thirst, loss of appetite, and mental depression.

Mr. Gay thought it a very proper case for the trial of the new instruments, and kindly transferred the case to Mr. Wakley. Nos. 1 and 2 common bougies had previously been passed by Mr. Gay with great difficulty; and to-day (Jan. 29th) the small catheter having been introduced, the tubes Nos. 4, 5, 7, and 9 were successively passed over it. Very slight pain was caused, (much less, the man affirmed, than by the introduction of an ordinary instrument,) and the elastic canula No. 6 was left in the patient's bladder. Very little bleeding occurred. It was retained for twenty-four hours, and No. 10 was introduced, and retained for four hours. No pain or bleeding followed its introduction or removal.

24th.—No. 10 elastic canula was introduced, and retained six hours.

29th.—The same steps pursued.

Feb. 4th.—No. 10 elastic canula introduced as before, and retained eight hours. A dose of castor oil every third morning.

10th.—He passes urine in a full stream, retains it for the usual time, is regaining his health and strength, and has in all respects verified Mr. Gay's "anticipation of a *rapid* cure." Discharged cured.

Stricture; Retention of Urine.

CASE 6.—Robert W——, aged eighteen, French-polisher, 25, Bridgewater-street, a young man of extremely dissipated habits, was admitted in the afternoon of Feb. 4th, suffering from complete retention of urine, which had existed since seven in the morning. He was in great agony, having had several instruments introduced as far as the stricture with force; the bladder was very fully distended. A small catgut bougie was carefully introduced, and after some time entered, but would not pass through the stricture, which was anterior to the bulb; it was allowed to remain a short time, and on its removal, the urine followed in a very small stream. On the 5th he passed urine in his usual manner, but on the 6th, the retention returned, and was again relieved by the introduction of the bougie. About two hours after the guiding catheter was with much difficulty introduced through the stricture, and No. 3 elastic tube passed over it, and left in the bladder.

7th.—The catheter being introduced through the elastic canula, Nos. 4, 5, & 6 were passed over it with ease.

8th.—He has a good deal of pain, and a slight discharge. The catheter could *not* be introduced, showing the advantage gained by leaving the canula in the bladder. Some castor oil and a linseed poultice removed the irritation: and on the

9th.—Nos. 5, 6, 7, & 8 were passed.

10th—No. 6 canula left in the bladder.

11th.—No. 10 passed. Canula retained.

12th.—He feels quite recovered; is better than he has felt for months; he passes urine in a full stream, and retains it all night.

He has since attended once, and informed us that he remains well.

ST. GEORGE'S HOSPITAL.

Cases of Stone in the Bladder; Lithotrity.

(Under the care of MR. PRESCOTT HEWETT.)

THE first case is that of a man fifty years of age, of a somewhat nervous temperament, who was admitted under the care of Mr. Prescott Hewett, in September 1850. He stated, that nine months ago, he suffered from severe, but not long-continued pain in the left renal region; this was unaccompanied by fever; soon afterwards, however, he had pain at the end of the penis, after passing urine, the flow of which has latterly been at times suddenly stopped. He has never observed any blood in his water, but it has been constantly thick, and the patient has been called upon to pass it more frequently than natural—viz., seven or eight times in the night.

His countenance was anxious, and the face pale and somewhat puffed; the legs, too, were œdematous, and the whole aspect of the patient was that of a man whose general health was broken. At times he suffered much from indigestion, and occasionally from diarrhœa, the latter symptom having first made its appearance some sixteen months ago, when he had a sharp attack of English cholera. Frequently he was troubled much with palpitation of the heart, and the breathing was somewhat hurried. The chest having been examined, cardiac disease was once detected, consisting of hypertrophy of the organ, with mitral systolic murmur. The urine was acid, but it contained a large quantity of pus; and there was likewise some albumen, not more, however, than there would probably be with such an amount of puriform secretion.

A day or two after the patient's admission, the bladder was sounded, and a stone, apparently of large size, was easily found. The urethra was capacious; the bladder was not contracted, but the prostate gland appeared to be somewhat enlarged. The patient, who was very nervous and frightened at the idea of an operation, shortly afterwards suffered from an attack of diarrhœa, which was, however, soon checked. At a consultation of the surgeons, it was determined that the stone should be crushed.

On the 26th of Sept., the bladder having been injected with tepid water, a large lithotrite was passed, and the stone being readily caught, was repeatedly broken, no great force being required, as the calculus was not a very hard one. The patient was sent back to his ward with an extra blanket on his bed, and was given at once a glass of hot brandy-and-water.

When seen at night, he was very restless, and complained of great pain in the bladder, and at the end of the penis. A full dose of laudanum was given, and ordered to be repeated, if necessary. On the following morning he was still suffering a good deal, especially at about an inch beyond the meatus, where some fragments appeared to be lodged. The urethral forceps were introduced, and two or three good-sized fragments removed from this spot; smaller ones had been passed in the night. The bladder was washed out with warm water, and the patient ordered a few drops of laudanum three times a day, to allay the great irritability under which he was suffering.

During the next few days some more fragments, composed of lithate of ammonia and lithic acid, were readily passed, but he still continued to suffer great pain, and on the 3rd of October he was suddenly attacked with severe diarrhœa, general pain in the abdomen, and tenderness upon pressure in the hypogastric region; the pulse was quick and irritable, and the tongue much loaded; the urine, which was voided very frequently, contained a large quantity of muco-purulent matter, it was highly alkaline and very offensive. The fragments of stone which were now passed were found to be coated with a distinct layer of triple phosphate. Salines, opium, and chalk-mixture were given, with the effect of checking the diarrhœa and allaying the irritative fever and vesical pain. But on the 11th, the patient had a still more severe attack of diarrhœa, which was checked by decoction of logwood with opium, and under a generous diet he soon began to rally.

On the 17th, twenty-one days after the first operation, the irritation of the bladder having for the greater part subsided, and the urine become more healthy and slightly acid, lithotrity was again had recourse to, and the fragments crushed several times. The patient complained much of pain at the neck of the bladder, but upon the whole, bore the operation very well. Hot brandy-and-water was again ordered, and in the evening diarrhœa, and great irritation about the bladder once more made their appearance. Both these symptoms were much relieved by a suppository of opium; and on the following day the patient took decoction of pareira brava with laudanum and nitric acid. He now became very low and desponding, began to lose flesh, and required very generous diet, with wine and brandy, to keep him up. On the 30th, thirteen days after the second operation, some large fragments having been detected, they were crushed. This operation was followed by much less constitutional disturbance than the others, and the man's spirits soon began to revive.

A fortnight afterwards, as there was still some irritability about the bladder, it was again sounded, but only one small piece of stone could be felt; this was crushed, and the following day, the fragments having been passed, the patient immediately expressed himself as quite relieved of all inconvenience. He was allowed to get up, and soon began to regain flesh and strength. The bladder having been twice sounded without anything being detected, all symptoms of stone having disappeared, and the water gradually assuming a healthy aspect, he was discharged on the 30th of November, about two months after the first operation. He has been heard of within the last few days, and remains perfectly well, as far as the vesical symptoms are concerned.

The second case runs as follows:—A. B——, forty-one years old, a stout, healthy labourer, was admitted on Sept. 25th, with vesical calculus, and gave the following history: For the last two years he had passed gravel at times, and for the last nine months the water had been thick, and frequently red, the colour being deepened by taking much exercise. He had felt a little pain in the region of the bladder, but none in the prepuce or glans penis. The urine was passed three or four times in the night, the stream occasionally ceasing suddenly; it was acid, and contained pus in small quantity, with a trace of albumen.

On Oct. 2nd, the patient was sounded, and a calculus easily detected, the bladder being found very capacious. On the third, there having been no disturbance from the sounding on the previous day, the bladder was injected, and the lithotrite passed with facility. The stone, however, could neither be felt nor caught, notwithstanding the various positions in which the patient was placed. The lithotrite was therefore withdrawn, and as the man had suffered little or no pain, Mr. Hewett determined upon drawing off some of the water, and again introduced the instrument. This measure fully answered the purpose, for the stone was at once caught and repeatedly crushed. The patient was sent back to the ward, an extra blanket put upon his bed, and hot brandy-and-water at once ordered.

During the next few days he passed small portions of calculus, chiefly composed of lithic acid, and there was no constitutional disturbance. On the 17th, fourteen days after the first operation, the stone was again crushed; several times fragments of lithic acid were easily passed. Twelve days after this he was sounded, and a very small piece of calculus found in the bladder; it was thought, however, and rightly, that this might be got rid of without any further operation. Seven days afterwards the fragment passed without any difficulty. On the 13th, seven weeks after admission, the patient was discharged cured, having no symptom of stone; the urine was perfectly healthy, and retained for the customary period.

In the few general remarks made by Mr. Prescott Hewett on these two cases, which were sometimes operated upon on the same day, he first drew attention to the very great difference which existed as to the amount of pain suffered by these patients. Both had been operated upon without chloroform, the one suffering but little inconvenience from the operation, and the other suffering most intensely from it; in fact, so intensely, that chloroform would have been administered had it not been for the affection of the heart. But with such an amount of disease as existed in this man, Mr. Hewett did not think it advisable to give chloroform, being anxious to avoid running the risk of bringing so valuable an agent into disrepute.

Mr. Hewett next pointed out that little or no part of the calculi had been brought away during the operations, and in fact that there was nothing, save a little detritus between the teeth of the instrument, to prove to the lookers-on that a stone had really been crushed. This depended upon the instrument which had been made use of; there was, namely, in the curve, a large slit through which the fragments were forced, and the two blades were thoroughly brought together at each crushing. With such an instrument as this (the one usually made use of in the present day) the fragments were left to be passed in the urine, and generally none were evacuated until some hours after the operation; in the first case some came away within a few hours, but in the second this did not occur until thirty-six hours afterwards.

This instrument also possessed the very great advantage of lessening the chances of a laceration of the urethra, which occurred, generally speaking, when an attempt was made to bring away some of the fragments in the forceps. In all operations of lithotrity, it was of the utmost importance to avoid lacerations of the urethra, for such an accident was likely to give rise to impaction of the fragments in this canal, which circumstance, it was well known, had been followed by fatal results. The urethra has most frequently been torn in its membranous part; hence the reason of impaction generally occurring in this spot, and hence, also the rule, that whenever the patient complained of great pain in that region, a careful examination was to be made, and the part cut down upon if a fragment were fixed in it. With care, all danger incident to impaction of fragments in the urethra might be avoided.

In one of the operations, the two blades of the lithotrite had become so forcibly locked together when the instrument was closed, that it was found impossible to reopen them in the bladder. This was caused by some of the sabulous matter getting entangled in the groove of the instrument, so that the blades could no longer be made to play upon each other; and when this locking did happen, it was advisable at once to withdraw the instrument, and make use of another; or better perhaps to postpone the operation to another day.

In the first case the stone had easily been laid hold of; in the second, however, the attempts to seize it were at first fruitless, but it was readily caught after some of the water had been drawn off from the bladder. The difficulty of taking hold of the stone was sometimes attributable to the state of the bladder or prostate gland; but in other cases it was not easy to say upon what this difficulty depended. Whenever it did occur, however, great care should be taken neither to make use of any force nor move the instrument about much.

Mr. Hewett observed, lastly, that after each operation a glass of hot brandy-and-water had been ordered, and an extra blanket placed upon the bed. This had been done with the view of preventing the occurrence of cold shiverings, which always left the patient in a very exhausted state, and by their repetition sometimes led to great mischief.

We congratulate Mr. Hewett on the successful issue of these cases, and consider that the judicious treatment which was employed *between* the operations had a large share in the favourable results. We always thought that the *after-treatment* should be carefully attended to; nor are authorities wanting in support of this view. Mr. Coulson, for instance, says, p. 210 in his work on the "Prostate Gland,"—

"Although lithotrity is often very easily performed, it is necessary that the patient's health should be brought into a favourable condition for the operation. The same care should be taken, for a few days at least, both before and after it, as in other important operations. It has been too much the custom of late years to regard the operation of lithotrity as a light one, and to pay but little attention to the subsequent management of the patient."

WESTMINSTER HOSPITAL.

Cases of Malignant Disease. Question of Surgical Interference.

(Under the care of Mr. Holt.)

One of the most embarrassing questions in the whole range of surgical science is that which refers to the propriety of removing malignant tumours, or limbs affected with the same. This question, when carefully considered, splits into various others, one of which (and one certainly of much importance) is, whether we do or do not hasten the fatal termination by interference. Cases have lately occurred under the care of Mr. Holt which will materially aid in the solution of this question.

In the first, the patient is a widow, sixty-three years of age, who has followed the occupation of cook and monthly nurse, and was admitted under the care of Mr. Holt, November 12, 1850. She has always enjoyed good health, menstruated regularly until about nine years ago, and has had ten children and three miscarriages. No one of her family ever laboured under malignant disease. Full ten years since the patient was struck on the left eye by an insane lady whom she was attending, and about a twelvemonth ago she first began to feel a sharp pain in the left cheek and brow, extending thence to the temple on the same side She was not at the time suffering from toothache; the pains used to last about a quarter of an hour, and were of a sharp, stabbing kind. Abundant bleeding from the left nostril occurred at this period; the blood was florid, and continued to flow for about twenty minutes. During the hæmorrhage the patient felt less pain in the jaw, but on the arrest of the blood the pain returned as sharp as ever. It would likewise appear from her statements that considerable hæmorrhage from the bowels occurred at the same time. From this period the patient has never been free from pain; it usually increased in the evening, and was worse at night, her rest being thus completely broken. The bleeding from the nose since its first occurrence, returned daily for several months, and sometimes on making a slight exertion it would recur two or three times in a day. This lasted for about four months, since which time the hæmorrhage has not returned more frequently than two or three times a week, but the secretion from the nose, which is now purulent, is often tinged with blood, and occasionally deeply colored by it.

The sight of the left eye began to be affected at the commencement of the complaint, the patient being unable to look long and steadily at an object with that eye. Severe lancinating pain is now felt in the lower lid, extending thence along the lacrymal sac in the course of the nasal duct. This sac is constantly full, except when pressure of the finger causes its contents to pass into the nostril, which interference does not give the patient any pain. When pressure, however, is made to produce regurgitation of the contents, the fluid is found clear and watery. Within the last month the patient experienced numbness of the left ala nasi and left side of the upper lip, as far as the angle of the mouth.

Two years since, the left canine and first molar of the same side dropped out, the last molar had been extracted many years previously; and about six months ago the second molar was removed, this latter having given her pain for four consecutive months. The fangs of this tooth were quite black, not carious, but abundantly encrusted with tartar. The left central incisor is now loose, carious, and directed externally; the lateral incisor is slightly diseased, and the remaining bicuspid teeth appear sound.

When the patient was admitted, the left superior maxilla was found enlarged, both on the face and within the mouth, the eye half closed, the eyelids and surrounding skin inflamed, and severe pain was complained of in the cheek, brow, and vortex, the left nostril discharging a highly offensive purulent matter, frequently streaked with blood. There had been a short time before admission severe inflammation of the whole of the left side of the face, the œdema having caused the eye to protrude.

No change of any importance occurred for the first four weeks, when the roof of the mouth on the left side gave way on a circumscribed spot, the aperture allowing a great portion of the discharge to pass through the mouth. Patient now found it difficult to open the latter to any extent, and both smell and taste are lost on the left side. Being much reduced, she was ordered nutritious diet, and wine; rest was procured at night by opium, but it was evident, from the malignity of the disease, from its seat, and the patient's age, that no surgical interference would be justifiable. Mr. Holt expressed himself very distinctly on the subject, having been much impressed by the following case:—

Eliza M——, twenty-five years of age, was admitted, under the care of Mr. Holt, May 7, 1850, suffering from circumscribed ulceration of the integuments, situated beneath the internal malleolus of the right leg. She stated, that until eight years ago she apparently enjoyed uninterrupted good health, when, without any assignable cause, a small tumour, of a somewhat rounded form, was noticed, occupying the situation of the above-mentioned ulceration. Its growth was slow and unattended by pain, and a period of eighteen months elapsed before it had attained the size of a large hazel-nut; the mother then, fearing it might be ultimately detrimental, requested the opinion of the late Mr. Liston, under whose care the then child was admitted into the North London Hospital, and the tumour removed. The operation was accomplished without difficulty, and at the expiration of ten days the child returned home apparently perfectly well.

The cicatrix remained firm for eight years, when pain of a darting, lancinating character began to be experienced; a small nodule was now noticed in the cicatrix, of a hard, unyielding character, which gradually increased, occupying a further period of six years in attaining the size of a walnut. The pain during this period has been frequently so intense as to call for the administration of opiates; ulceration now occurred, and with (for a fortnight) a mitigation of her sufferings; the pain, however, returned, and at this time Mr. Holt was requested by the gentleman who had charge of the case to see the girl.

Upon examination, a circumscribed, unhealthy, ulcerated mass, with hard, cartilaginous, everted edges, and fungoid granular centre, was detected; the discharge sanious, and having a peculiar sour odor; the pain described of a lancinating character, at intervals extremely severe; general health apparently unaffected, countenance healthy, and all her functions performed with regularity. The tumour having been previously removed with prolonged success, and the mass being unconnected with deep-seated parts, Mr. Holt decided upon giving her the chance of re-extirpation before resorting to the more serious operation of amputation; the wound, however, never healed, and in a few months the aspect of the sore was as bad as before the operation.

Various plans of treatment were proposed and adopted, some difference of opinion existing as to its malignant character; but as a further trial, extending over a period of six months, was not attended with any beneficial results, and the ulceration showed a tendency to increase, Mr. Holt, with the consent of his colleagues, removed the limb by a single flap operation below the knee.

The tumour was carefully examined; it was not found to be connected with either the tibia or the bones of the tarsus, but chiefly confined to the integument, a small portion of the abductor pollicis being implicated in the disease. Upon being placed under the microscope, sufficient evidence was evinced to determine the malignant character of the ulceration. The stump healed rapidly, and in a short time the patient left the hospital apparently well, and grateful for the attention she had experienced.

Six months after leaving the hospital, (Mr. Holt having had opportunities of seeing her in the interval, during which period she remained apparently well,) the girl, after riding in a chaise on a bleak day, caught cold, and complained of a pain in her chest, with some difficulty of breathing; these symptoms having rapidly increased, Mr. Holt was requested to see her. Upon examination both pluræ were found partially filled with fluid, the heart's action feeble and occasionally intermittent, and the patient complained of faintness upon using the slightest exertion. Active remedies were had recourse to, but without material benefit, and after ten days' suffering she expired.

Post-mortem examination, sixteen hours afterwards, and rather more than six months from the operation. Upon removing the sternum, the costal and pulmonic pleuræ, together with the pericardium, were found studded with encephaloid deposit; the lungs and substance of the heart were, in a like manner, implicated; the peritonæum, omentum, ovaries, uterus, kidneys, and spleen, were infiltrated with the same malignant substance; the liver had apparently escaped. The glands in the groin of the affected side, together with the parotid on the opposite half of the body, as well as the top of the scalp, were the seat of the same disease. The surface of the stump presented a healthy and uniform appearance. There not having been any symptoms of disease of the brain, it was not examined.

The following case is of the same class as the one just narrated, and strongly illustrative of Mr. Holt's views:—

S. G——, fifteen years of age, was admitted under the care of Mr. Lynn, August, 1850, suffering from fungus hæmatodes of the right ankle. The patient gave the following history.—One month previous to her admission, (the health up to that period having been uniformly good,) pain, without any assignable cause, was experienced in the ankle and lower portion of the tibia of the right side. The pain partook of all those characters indicative of malignant disease, but as yet there was no swelling or deformity. Fourteen days afterwards, slight tumefaction was noticed above the external malleolus; it rapidly increased, and at the time of admission, being one month after the ushering in of pain, and a fortnight after the commencement of the swelling, the latter had attained the size of a large orange.

The appearance was that of a dark, irregular, soft, elastic tumour, and although the aspect of the growth was sufficient, together with the nature of the pain, to leave little doubt as to its nature, yet the very rapid manner in which it had attained its present magnitude, and the indistinct fluctuating sensation experienced by the touch, suggested the introduction of a grooved needle, that the nature of the contents might be accurately determined. Merely a few drops of blood followed the introduction of the needle. A consultation having been held, Mr. Lynn decided upon removing the limb, trusting that as the growth had not existed more than one month, its early removal might be attended with success. The limb was taken off above the knee by the circular operation; the stump quickly healed, and the child left the hospital apparently well.

A few *days* after returning home, slight pain was experienced in the right eye, (the amputation having taken place on that side,) and in less than a *fortnight*, fungus hæmatodes of that organ was fairly established. The glands in the right groin became enlarged; the patient was troubled with constant vomiting, and incessant pain in the head and chest; her breathing was materially interfered with, and she was unable to lie on the right side. These symptoms gradually increased until a week prior to her dissolution, when the motions were passed involuntarily; the remaining limb became paralyzed, the breathing more laboured, and for two days previous to her death quite stertorous. She died in a perfectly insensible condition.

Post-mortem examination, sixteen hours after death.—Upon removing the sternum, the costal and pulmonic pluræ were studded by encephaloid deposit, and the lungs infiltrated with the same matter, the heart and pericardium having apparently escaped. The peritonæum and omentum were implicated, together with the mesenteric glands, which latter presented very much the appearance of ordinary scirrhus of the breast. The uterus and ovaries were healthy, the kidneys gorged with blood, but free from malignant deposit. Upon removing the scalp, numerous prominences of the size of a walnut were found beneath the pericranium, and similar growths had sprung up under the skull. These tumours were partly attached to the dura mater, and pressed upon the brain, on which organ was found a mass of encephaloid growths, of about four inches in length, and two in breadth; the substance of the brain being considerably indented by their rapid development.

Mr. Holt, in commenting upon these cases, remarked that the two latter went in a great measure to prove the inutility of interfering by surgical operation with diseases of a malignant nature. From the manner in which both these persons were affected with secondary malignant deposit, he had no question that cancer, certainly in the medullary form, was a disease of the circulating system; and under this view it became a very grave question whether the death of the patient was not materially *accelerated* by the removal of the tumour or limb. He considered that nature was by such operations hindered in her attempt to eliminate from the general circulating system those noxious principles which, becoming accumulative, were afterwards deposited in organs of vital importance to the animal economy.

Many points of extreme interest presented themselves in the consideration of the terminations of the disease in question, more especially after operation. First, it might be asked—Are not all forms of cancer likely to be secondarily developed, although the primary product may have been of the most inert kind, as we have many forms of secondary syphilitic disease from the same primary sore?

A malignant deposition having taken place, does the poison become regenerated by absorption from the local deposit?

Can the transformation of old, or the deposition of new matter, containing cancerous cells occur, (setting aside the proximate cause,) without the blood being impregnated by cancerous matter?

Does not the extreme cohesion of scirrhus prevent, in a great measure, an active supply of nutritive matter, and so impede its rapid growth?

If it can be proved that the medullary form of cancer is generally secondarily deposited, do we not increase the risk of these secondary manifestations by removing scirrhous breasts?

If a cancerous tumour ulcerates and progresses but slowly, is it not better to let it alone; and does not the discharge eliminate a certain quantity of the poisonous principle, and prevent its being accumulated?

Nor is it to be forgotten that the healing of the wound is no indication that the disease will not return.

Many other points of extreme interest would suggest themselves by an attentive consideration of this subject, and further research must determine the propriety of surgical interference—viz., how far it is justifiable to operate; and in what instances the removal of the whole of the disease is likely to be attended with success.

Mr. Holt expressed it as his present opinion, that malignant disease is a blood poison, and that it is utterly useless to interfere by surgical operation, under the hope of ridding the system of a constitutional affection.

CHARING-CROSS HOSPITAL.

Strangulated Femoral Hernia in a man; Operation; Recovery.

(Under the care of Mr. HANCOCK.)

THAT the mortality is very large after operations for strangulated hernia is acknowledged by all, and a superficial inquirer might be inclined to attribute this fact to the operation itself, but such an opinion would, according to the best authorities, be thoroughly unfounded. Many causes independent of the operation, unfortunately tend to keep the mortality at a high rate, and amongst these the most conspicuous are the late period at which patients apply for relief, and prolonged and violent taxis.

Mr. Hancock, in his recently published and valuable essay on the operations for strangulated hernia (which appeared first in the pages of this journal) gives so graphic a sketch of the errors which lead to fatal results, that we yield to the pleasure of quoting it.

"We can scarcely read the published records of strangulated hernia without feeling surprise, not that the mortality has been so great, but that it has not been greater. Every rule, I may almost say of common sense, if not of good practice, appears to have been violated in the treatment of these cases. When strangulation took place, instead of at once relieving the stricture, the patient was left until almost dead, the surgeon in the meantime torturing him in all manner of ways, in order to prevent the operation, which was at last obliged to be performed under every disadvantage, the gut being bruised, inflamed, or mortified, and the patient in a state of collapse, worn out by suffering and the prolonged and abortive attempts at reduction. When the intestines, from the injury sustained, had lost their power of action, they were still more irritated and injured by the exhibition of purgative medicines, both before and after the operation; and yet those who pursued this practice would most strenuously have deprecated the employment of purgatives in cases of idiopathic enteritis or wounds of the abdomen. Again, notwithstanding the patient was almost collapsed, from the severe constriction exerted upon the intestine, his vital powers were still more depressed by the administration of tobacco, either in solution or fumes, tartar-emetic, and other equally destructive agents . . . ."

So much for *some* of the cases of the high mortality; but Mr. Hancock mentions another, and a very destructive one, over which we unfortunately have no power whatever; he says, page 36, "We may talk about 'the operation being had recourse to in due time,' but, comparatively, how little control has the surgeon over this matter. He certainly ought not to lose time when the case is presented to him, but how few cases come under his notice where the strangulation has existed less than twenty-four hours, a quite sufficient time for the gut to be so injured as to be deprived of its vitality."

But the next question is this: has the practice of opening the sac had any influence on the great number of unfavourable results? Petit, Le Dran, Monro, Sir C. Bell, Bransby Cooper, Aston Key, Luke, and Gay, say yes; Dupuytren, Richter, Hay, Heister, Sir A. Cooper, Lawrence, South, and Hancock, say no; and the latter authorities even go further, and maintain that, "on the contrary, the advantages of opening the sac are so great, that as a general rule, it ought to be adopted as the safer mode, and presenting the greater certainty of success." (Hancock on Hernia, p. 2.)

We do not pretend to strike the balance between these diverging opinions; both methods have very eloquent advocates. As to Mr. Hancock's essay, we must say that we were highly impressed with the logical and forcible manner in which this author strives to prove the superiority of the method he is defending. It will therefore not surprise any one that we should view and watch with more than usual interest, cases of strangulated hernia coming under Mr. Hancock's care at Charing-Cross Hospital. In the case which we are going to relate there was, besides, a very rare feature—viz., the fact of the hernia being of the femoral kind in a male subject. The particulars run as follows:—

John D——, 74 years of age, and affected with total blindness, was admitted at half-past four, P.M., January 14, 1851, under the care of Mr. Hancock, with strangulated femoral hernia of the right side. The patient stated that he had been ruptured two years, but that he never had experienced any inconvenience from this circumstance until *three days before admission*, when he felt slight uneasiness at the umbilicus. Notwithstanding a *quantity of purgative medicine which he took*, pain and constipation continued, and these symptoms were speedily followed by constant vomiting and hiccough. The symptoms on admission had slightly abated; the pain was not very severe on pressure, nor the vomiting frequent. As the warm bath and taxis failed to reduce the hernia, the operation was immediately performed.

The patient being placed under the influence of chloroform, the strangulation was relieved in the usual way, after opening the peritonæal sac. Nothing of importance was remarked during this operation, except the dark, discoloured appearance of the knuckle of intestine and hernial sac. The man was placed in bed, and ordered fifteen minims of tincture of opium in camphor mixture, every four hours.

It was found, on the next day, that he had passed a good night, and felt very comfortable; he had had no vomiting since the operation; there was no tenderness of the abdomen; the pulse beat 70, small and soft; the tongue was furred, and the bowels confined. In the afternoon, the abdomen was slightly tympanitic, but the patient complained of no pain. Mr. Hancock prescribed two grains of calomel and a quarter of a grain of powdered opium to be taken every four hours. In the evening of the same day, some delirium set in, probably depending on the ingestion of opium; there was, however, no pain in the abdomen, though the latter felt slightly tympanitic; pulse 80, small.

On the second day after admission, the patient stated that he had slept at intervals during the night; he had been rather rambling at times, and felt weak. Abdomen less tympanitic, and free from pain; tongue furred; pulse 104, small; bowels still confined. The sutures were removed from the wound, the latter looking very healthy. On the third day patient felt very comfortable; he was free from pain or uneasiness of any kind; his bowels were moved for the first time since the operation; tongue cleaner; pulse 70, small and regular. For the following few days, all the symptoms were extremely favourable, except disturbed rest, rambling, and getting out of bed; the bowels, however, acting well. On the eleventh day, he was gaining strength, the alvine evacuations took place regularly, and on February 12th, twenty-nine days after admission, the patient was discharged completely recovered.

It will be perceived by the foregoing report, that there had been symptoms of strangulation *three days* before admission, and that no relief was obtained, notwithstanding the *quantity* of purgative medicine which the patient took. Here are two circumstances which ought largely to be taken into account when considering the causes of death after operations for strangulated hernia. It is of course natural that patients should take or be made to take purgative medicine, when obstruction of the bowels occurs, but it would be well if medical men were to make it a practice to warn persons affected with hernia, to apply for relief immediately an ordinary dose of aperient medicine fails to produce the customary effect.

We perceive that Mr. Hancock gave opium after the operation, and that he combated the slight symptoms of abdominal inflammation by small doses of calomel and opium, without having recourse to purgatives. On the third day, however, after the operation, the patient's bowels acted, and he continued to do well. This case, in connexion with several others treated in the same way by Mr. Hancock (details of which are given in the above-mentioned essay,) are certainly calculated to make us very cautious in the use of purgatives after an operation for strangulated hernia. It would appear that inflammation is the principal event which we should combat, and that we should allow the much worried and irritated intestines to regain by rest their pristine vigour. Dr. Corrigan, as quoted by Mr. Hancock, says very justly, on that head, "Relieve the serous inflammation, and permit the peristaltic action of the intestines to return, but do not force it. . . Fancy the abdomen of a patient affected with peritonitis exposed to view, with the cæcum and small intestines intensely inflamed, and that while nature was doing her best to keep these parts in a state of rest, croton oil was thrown into the intestinal tube by one inlet, and stimulant injections through another. Surely such would be an error of practice perceptible to the commonest capacity."

We would likewise draw attention to the "dark, discoloured appearance of the knuckle of intestine" at the moment when it was returned into the abdomen. No untoward symptom subsequently pointed to any disorganization of the coats of the bowel, though such an occurrence might by some have been apprehended. Indeed, even completely gangrenous portions of intestine have, to our knowledge, been returned into the abdomen, and the patient recovered without any special treatment after the more or less protracted existence of artificial anus. We shall, in a very short time, have to bring before our readers a case strongly illustrative of a similar result.

SOUTH STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.

Encephaloid Disease of the Left Kidney.

(*Reported by* JOHN TOPHAM, M.D. (Londin.), Physician to the Hospital.)

AN agricultural labourer, named J. H——, sixty one years of age, presented himself as an out-patient of the South Staffordshire General Hospital, on September 17, 1850, complaining of habitually passing urine tinged with blood. This symptom first appeared three months before application, previous to which time he had always enjoyed good health, with the exception of being subject to epileptic seizures, which usually came on during the night. He had been under medical treatment both for this complaint and for that under which he now labours. Has never received any mechanical injury which can account for the hæmaturia.

Sept. 17th.—Complains of pain in the loins, extending down the course of the spermatic cord on both sides, accompanied by nausea, loss of appetite, and great debility. The urine always contains blood. During his occasional attendance as an out-patient, I examined the renal secretion several times, and always found it of a deep red colour, coagulable by heat, and when placed upon the stage of the microscope, and observed with a lens of sufficiently high power, exhibiting a large quantity of blood-corpuscles unmixed with any other unnatural deposit. The treatment was directed to the alleviation of the hæmorrhagic symptoms, and consisted in the administration of gallic acid, with the occasional addition of blue pill and sulphate of magnesia. This was unproductive of any benefit, and the man became an in-patient on October 17th.

At that time the quantity of urine secreted in the course of twenty-four hours amounted to from twenty to twenty-five ounces; specific gravity, 1020; reaction, acid. It was deeply coloured by blood, and after boiling, the urine became nearly solid from the coagulation of albumen. Careful microscopic examination failed to detect any change, save the presence of a large number of blood discs.

During the last few weeks the general health of the patient has suffered greatly from the constant hæmorrhage. His countenance has become exsanguine; serous effusion has taken place in the lower eyelids, and he feels a frequent tendency to faint. The pulse is now intermittent, and averages about 52 beats in a minute. The sounds of the heart are not attended by any murmur, but percussion denotes an unusual extent of cardiac dulness, especially to the left of the nipple. Nothing unnatural can be detected on examination of any other portion of the body, save a marked dulness in the situation of the left quadratus lumborum muscle.

Oct. 19th.—Spontaneous hæmorrhage has taken place to a considerable extent from the nose, and the proportion of blood discharged with the urine is increased. To take tinctura ferii sesquichloridi in twenty minim doses every four hours, and to have nutritious diet.

The bleeding returned on the following day, but ceased spontaneously.

22nd.—There has not been any recurrence of the hæmorrhage, but the patient is considerably reduced in strength, and cannot understand when spoken to. Pulse imperceptible at the wrists. The condition of the urine never improved, and he died from exhaustion, on the 26th of October.

Post-mortem Examination, twenty-four hours afterwards.—Surface of body pale; considerable amount of fat in subcutaneous cellular tissue; colour of muscular fibre natural. Abdomen: small intestines empty; great omentum loaded with fat, but containing no morbid deposit; stomach healthy; spleen natural in size and structure; bladder distended with bloody urine, but having its coats perfectly natural. The left kidney was greatly enlarged, and its surface nodulated. On dividing the organ, the whole was found to consist of encephaloid matter, mingled with masses of coagulated blood, and divided by septa into several irregular portions. The weight of the left kidney was twenty-six ounces, that of the right kidney five ounces and three-quarters. The latter contained a cavity in its cortical substance of about the size of a hazel-nut, surrounded by a firm white membrane. The general substance of this kidney was greatly congested. The liver weighed sixty-one ounces; structure natural. In front of the abdominal aorta, immediately above its bifurcation, there was a solid mass of degenerated structure, consisting principally of the aortic or lumbar lymphatic glands. The vena cava and aorta were not invaded by the disease, and the latter was separated from the mass by a layer of condensed cellular tissue. The nerves appeared to have escaped degeneration. A portion of small intestine was adherent to the front of the mass, but its mucous membrane was healthy. There was no fluid in the abdomen; testes healthy, Thorax: The lungs were considerably congested, but were perfectly free from morbid deposit, either cancerous or tubercular. The pericardium contained four ounces of reddish serum. The heart weighed twenty ounces and a half, and exhibited signs of hypertrophy; thickness of walls of left ventricle, one inch and a quarter; parietes of right ventricle natural; no valvular disease. Head not examined.

Remarks.—At the time of my first seeing the patient, I treated the case as one of simple hæmaturia, dependent upon renal congestion, and it was only after he had come under more immediate observation as an in-patient that my attention was called to a dulness on percussion in the situation of the left kidney.

It was worthy of remark, that careful and repeated microscopic observation gave no insight into the real nature of the case, for there were never any cancer-cells present in the specimens of urine examined. The blood discs were always free, and distinct from one another, and there were no such moulds of the interior of the tubuli uriniferi ever seen as are common in cases of renal hæmorrhage.

The post-mortem examination perhaps partially revealed the cause of this, as the encephaloid matter was (as is usual) deposited most abundantly at the *exterior* of the gland, whilst the vicinity of the calyces was occupied by effused blood, which would thus find a ready exit through the urinary passages.

The infiltrated form of cancerous deposit was that assumed in the present instance, as is usually the case where the renal degeneration is the primary one.

The limitation of the disease to the left kidney gives an additional interest to the case, as the opposite organ is the more usual seat of cancerous degeneration. A similar instance was recorded by me formerly in THE LANCET.

How far the hypertrophy of the left ventricle of the heart was due to the pressure exerted upon the abdominal aorta by the enlarged aortic glands, admits of question; more especially as there was no serous effusion in the lower extremities, as might reasonably have been expected, had there been much obstruction made to the course of the blood in the vena cava inferior from the same mass of degenerated tissue.

Foreign Department.

Pulsating Tumour developed in the Head of the Fibula; treated Unsuccessfully by Galvano-puncture, and the Ligature of the Femoral Artery; finally controlled by the Removal of the Head of the Bone.

M. **Gerdy**, at the Charité, lately admitted a man afflicted with a pulsating tumour in the head of the fibula. The pulsations were synchronous with those of the heart; they were stopped by the compression of the femoral artery, and the tumour might be made to disappear almost completely by pressure exercised upon it. The affection was looked upon as aneurism of bone. M. Gerdy tried galvano-puncture; this produced an increase of volume, and the patient left the hospital without consenting to the deligation of the femoral artery, proposed by M. Gerdy.

This patient was subsequently admitted at the Hôpital St. Louis, under M. Malgaigne; this surgeon first tied the femoral artery; this caused the tumour to diminish, and to cease pulsating, but at the end of the third month the pulsations returned. M. Malgaigne then proceeded to excise the head of the fibula before resorting to amputation; this measure was completely successful, as the osseous degeneration had stopped at the articular cartilage. Whether this was really a true aneurism of bone, we shall let our readers judge, from the description given by M. Malgaigne of the pathological specimen: "The head of the fibula was reduced to a very thin shell, osseous in some parts, but cartilaginous and even merely fibrous in others; it was filled with a soft substance analogous to encephaloid matter, which might easily be broken down by the fingers." We should be inclined to think this affection more malignant than simple aneurism.

Medical Deontology.

A very curious case, and one of vital interest to the medical profession in France, and perhaps in other countries, has lately been tried at Angers. It appears that M. **Chedanne** was called to a woman who had just been confined, and when viewing the child saw marks of violence on the little creature. The infant was taken the very same evening to the receiving box of the Foundling Hospital, in which establishment it soon expired. M. de Chedanne, as holding the office of surgeon to the hospital, reported this death in such terms that a post-mortem examination was immediately ordered. The autopsy proved that the child had come to its death by violence. When called upon to give his evidence, M. Chedanne refused to give any clue to the affair. In the interim, however, he had, as bound by law, given notice to the registrar of the birth of the child, but had refused to give either the name or the residence of the mother.

M. Chedanne had therefore a writ issued against him, and was charged with incomplete declaration of birth. A lower court gave a verdict against him, and he was fined £4 and costs, on the plea that every declaration of birth ought to include all the particulars referring to the parents, and that no one, not even the surgeon, has a right to withhold them. The Medical Association of Angers took the matter warmly in hand, and a committee was appointed to bring the case before the Court of Appeal. The court soon reversed the verdict of the lower one, and gave the opinion, that the above-mentioned particulars are *useful*, but not *essential*, and the accused was pronounced free from any liabilities.

Succedanea to Quinine in Ague.

Very recently M. Piorri has advocated the use of common salt to arrest ague; this substance having first been successfully used in intermittent fever, by M. Scelle Montdezert. The matter has been put to the test by one of the medical societies of Paris, and the treatment found extremely valuable. We should not forget to mention that M. Band has found the hydrocyanate of potash and urea likewise extremely useful in ague. Messrs. Leonard and Dieu now state to the Academy of Sciences, that they have treated fifty-three cases of ague with a mixture of cubebs and copaiba, and that all the patients were cured. Common salt, urea, and cubebs and copaiba, are so cheap, and quinine so expensive, that it would be worth while to make a few experiments in this country.

Curious effects of Fire-arms held close to the Body.

From a very interesting communication of M. **Rigal (de Gaillac)** to the Surgical Society of Paris, it appears that when the muzzle of a pistol was held tightly to the chest, so as to prevent the ingress of air into the barrel, the ball could not penetrate the walls of the thorax, but be deflected at a considerable angle. In a case of attempted suicide, related by M. Rigal, the ball rebounded from the chest, and struck the ceiling. Another strange fact connected with gunshot wounds, was mentioned by the same surgeon —viz., two distinct shots fired by an insane man upon his wife, with two distinct perforations of the clothes, and two tracks of the charge within the chest, and *only one* aperture of entrance.

Rupture of Ankylosis.

M. **Bonnet**, of Lyons, has, within a recent period, published long papers in the *Gazette Médicale* on this subject. This surgeon divides by the subcutaneous incision the hamstring tendons, and sometimes the tendon of the extensor cruris. The advantage to be gained by this rough operation is, that the patient may be enabled to walk with crutches, or other contrivance which affords good support. The motions of the joint have in no case been fully restored, and it might be asked whether the possible slight benefit is in proportion with the risk incurred by forcibly breaking an ankylosis?

Local Anæsthesia.

Dr. **Aran**, who has found chloroform very useful as a topical application in rheumatism and lead colic, has been making experiments with various narcotizing fluids, among which he has found Dutch liquid the most efficacious. The latter fluid has some advantage over chloroform, as it does not irritate the skin as chloroform is apt to do. Dr. Aran has published a case in the *Bulletin de Therapeutique*, where the sciatic pain lay principally in the buttock. About twenty drops of Dutch liquid were poured on a moist piece of linen, and placed on the affected part, another damp pledget over it, and oil-skin covering the whole. Two or three applications were sufficient to control the pain, and the patient left six days after his admission in the hospital.

Compliment to Mr. Wakley, M.P.—At a meeting of the committee of the London and Provincial Medical Protection and Benevolent Society, held April 21st, Mr. Wakley, M.P., was unanimously elected an honorary member.

Reviews and Notices of Books,

AND ALSO

ANALYSES OF PAPERS IN MANUSCRIPT

SENT FOR PUBLICATION IN THE LANCET.

Elementary Anatomy and Physiology for Schools and Private Instruction. With Lessons on Diet, Intoxicating Drinks, Tobacco, and Disease. By WILLIAM LOVETT. Illustrated with Coloured Plates. London: Darton & Co. 1851. 8vo, pp. 157.

THE object of the author in the publication of this book is summarily set forth in his preface, where he says:

> "This little work may be said to have had its origin in the efforts I have been making for some time past, to impart to children some knowledge of their own physical, mental, and moral nature; believing it to be an essential and important branch of youthful education. In the pursuit of my object, I have had to glean my information from many sources, and to simplify and condense it, and to give it in such a form as I thought might be best comprehended and appreciated by those I sought to instruct. And having to some little extent succeeded, I have thought it might aid others, engaged in the great work of education, if I printed what I have taught in a lesson form, accompanied by drawings of the diagrams I used, together with an outline of the method I adopted, and still pursue, in teaching this kind of knowledge to several classes of both sexes weekly."—p. vii.

In noticing a non-medical publication, a few weeks since, we gave some reasons why we consider that non-professional persons ought to be made, in some measure, acquainted with the structure and functions of their organization, and Mr. Lovett's work is by far the best of any which we have ever seen, proposing to convey this knowledge. The clearness of the diction, and the sanitary lessons inculcated, adapt the book to be understood and read with advantage by all individuals of ordinary capacity and acquirements. Mr. Lovett has wisely not stepped beyond his intention of presenting to his readers a mere outline of the sciences of human anatomy and physiology. What he has done is done in such a manner as to show that he is a master of his subject, in so far as it is pursued in his volume. He professes to have "an ardent desire to see the above two sciences more generally taught in our public and private schools," in which desire we concur, not only considering them as branches of a liberal education, but believing most firmly that a more general acquaintance with them would entail amongst the public a horror of quackery, and a better appreciation of the labours, learning, and value of the qualified medical practitioner. The coloured plates with which Mr. Lovett's work is illustrated are faithful representations, and well executed, and, as we have already said, this volume leaves other popular treatises on human anatomy and physiology far in the shade.

Correlation of Physical Forces. By W. R. GROVE. Second Edition.

THIS treatise contains within a narrow compass a large amount of valuable information, clearly and concisely expressed.

The Philosophy of Vital Motion. By C. B. RADCLIFFE, M.D. London. 8vo, pp. 160.

DR. RADCLIFFE is already favourably known to the profession as the author of a very original work of much interest,* in which he has sought to demonstrate an unity of law in organic and inorganic nature, from considerations of an abstract and philosophical character. His arguments are based upon a continued series of interesting facts, all of which he affirms give support to the idea of unity of form and force. In the pages before us, Dr. Radcliffe pursues his inquiries into problems of more practical interest in physiology. His object is, to show that phenomena of vital motion, in all their varied forms, are to be explained in the same way as phenomena of physical motion, there being but one common law operating in vital and physical forces, one mode of action in organized living tissues and inorganized lifeless matter. Dr. Radcliffe argues that the state of contraction in living tissues is not determined by, or to be considered as, any proof of the active operation of vital or physical agents; on the contrary, that the state of relaxation is the evidence of the active change. A heated bar of iron contracts on cooling, because of the molecular attraction of its particles, and this phenomenon becomes more and more apparent in proportion to the abstraction of heat. Analogously our author argues, and he supports his arguments with many striking facts, that in the more special cases of contraction in organic living tissues the effect is due to the diminution or withdrawal of nervous influence, electricity, or some other agent which antagonizes or opposes the molecular attractions inherent in the particles of the tissue. This is a startling proposition. It is contrary to all our received doctrines on the subject; and if established, involves a radical change in our ideas upon vital motion, and especially upon the operation of the nervous influence in this motion. Our author, aware of this, has therefore supported his proposition by a particular and special examination of each individual phenomenon of vital motion—vegetable and animal, testing them severally in relation both to physical and vital agents. After disposing of some preliminary considerations, he speaks of such movements as are seen in vessels and cells, under which head the chief topics are, the phenomena of cyclosis, the general circulation of the sap, and especially the capillary or vascular movements in animal bodies which are irrespective of a heart. He then examines the movements seen in the irritable tumours of the sensitive plant, in involuntary muscles, exclusive of the heart, and lastly, in voluntary muscles, and in each of these instances he shows, by a most careful examination, in relation to all the agents concerned, that the law of action is the same. Finally, the action of the heart is examined, and its mysterious rhythm is explained in the same way. The concluding pages contain the author's ideas upon the influence of the nervous energy and mind in vital motion, and the arguments by which these are urged sufficiently show that although he considers the automatic motions in organic tissues, not as special and peculiar, but cosmical, yet he has escaped altogether from that pantheistic and materialistic view to which such a generalization might be supposed to lead.

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* Proteus; or, The Law of Nature.

It would take more space than our pages afford to give any fair and adequate idea of the facts and arguments upon which Dr. Radcliffe bases his views; these are so concatenated, that it is scarcely possible to detach any for quotation, without impairing the value which belongs to them when regarded in their appropriate place in the series. We therefore recommend the book itself for the perusal of such of our readers as feel an interest in the progress of physiology, stating it as our opinion that many of the conclusions appear to be demonstrated. Nay, more, if it be admitted that molecular attraction is a *vera causa* of contraction in organic tissues, upon the withdrawal of vital or physical influences, then it must be confessed that the author has discovered a satisfactory explanation (and this one and the same in each case) of three great physiological problems—viz., automatic capillary movements, muscular action, and the cardiac rhythm. The work, moreover, especially recommends itself to the careful consideration of the practical physician, for if the views contained in it be correct, no extreme sagacity is required to predict an important change in our doctrine of fever and inflammation, for such must follow upon a better knowledge of capillary action;—of convulsive diseases, for their antecedent is unknown until the secret of healthy muscular contraction is revealed;—and of the disordered conditions of the heart, for here also we must be in the dark until the cause of its wonderful rhythm is comprehended.

We are glad to remark, from a notice which appears at the end of the volume, that Dr. Radcliffe is pursuing his inquiries into the dark field of convulsive diseases; for however much we are disposed to honour the man who sheds any light upon the mysteries of Nature, we award a higher meed of praise to him who applies his knowledge to the relief of human suffering.

Observations Relating to the Science and Art of Medicine. By William Wegg, M.D. London. 8vo, pp. 233.

The author states that his small work comes before the medical public without pretension. It is not a closely reasoned and finished production, but is principally composed of remarks and suggestions, which may by many be regarded as often vague and unconnected. The introduction to this volume runs over thirty-seven pages, and is, we think, the most valuable portion of it, giving a general outline of the therapeutic action of medicines. Dr. Wegg next considers in succession, and in some points elaborately, the following subjects: Bloodletting, mercury, iodine, antimony, arsenic, iron, colchicum, opium, hydrocyanic acid, stramonium, strychnine, quinine, alimentary canal and support. To give a critical review of all the subjects alluded to above would occupy more space than we can at present spare. We think Dr. Wegg would have done himself more justice by illustrating his observations and remarks with a few cases in which each of these various remedies and treatment are useful. The work is, however, instructive, and gives evidence of much care and observation on the part of its author.

Additional Observations on the Nitrate of Silver, with full Directions for its Use as a Therapeutic Agent. By John Higginbottom, F.R.C.S. London: pp. 40.

A quarter of a century has elapsed since the author gave to the public the first edition of his essay on the Nitrate of silver; he has since employed the remedy daily, and its value has increased in his estimation. Unlike most new remedies, it has not only sustained its reputation, but has borne the test of experience in other hands. The author gives an outline of the value of this agent in a number of diseases, as variola, erysipelas, ulcers, inflammation of the absorbents, wounds received in dissection, burns and scalds, and states—and in this point we concur with him—that the great obstacle to its free use arises from the impression that it is a caustic and destructive agent. This, he states, is not the fact, for it subdues inflammation and induces resolution and the healing process. It preserves and does not destroy the part to which it is applied. If we compare a caustic, as the hydrate of potassa, with the nitrate of silver, we find that the former destroys the part to which it is applied, induces a slough, and the ulcerative process; but if we touch a part with the nitrate of silver the eschar remains adherent for a time, and then falls off, leaving the subjacent parts healed. The cases in illustration are well selected.

Conspectus Medicinæ Theoreticæ. Capita quadraginta tria universa complectens, ad usum academicum. Auctore, Jacobo Gregory, M.D. Editio undecima omni parte prefecta. Foolscap 8vo., pp. 420.—Edinburgh: Maclachan & Stewart.

This classically-written work has reached to the eleventh edition: this is a sufficient guarantee of its value. The former editions were in some places inaccurate; the editor on the present occasion, however, states, that all the parts have been carefully collated, and all imperfections supplied.

Introductory Address on Medical Education, delivered at Queen's College, Cork, at the Opening of the present Medical Session. By Alexander Fleming, M.D., Queen's. Dublin: Hodges & Smith. 1850.

An elegant and comprehensive oration, from which, did our space permit, we should have been much pleased to introduce several extracts in this place, more especially as the lecture has reference to the course of study required for attaining the degree of M.D. in Queen's University in Ireland, into the curriculum of which institution we rejoice to perceive that comparative anatomy enters as an essential branch of study. We have also long had, on our table, intended for insertion in our columns, summaries of the admirable introductory lectures delivered by Mr. Erichsen at University College, London, and by Dr. West at St. Bartholomew's Hospital, at the opening of the present medical session. For these we regret that the continued pressure on our pages will not now afford us space; and we must content ourselves by directing the notice of our readers to each of the above addresses as well worthy of their attention.

On the Use of Full Doses of Opium in Fever. By WILLIAM TUTIN HAYCRAFT, M.D., Greenwich. 12mo, pp. 20. THE LANCET Office.

Dr. HAYCRAFT considers that the administration of opium in the latter stages of continued fever is a practice which has fallen into undeserved disuse, which, he remarks, is the more unaccountable, inasmuch as the usual effect of fever is to deprive the patient of sleep. He argues that if any one were to be deprived of sleep for ten, twelve, or fifteen days, he would be by that time in a state somewhat similar to that of the exhaustion of fever:

> "By what train of reasoning (he asks) can we come to the conclusion that sleep is less necessary in disease than in health? That the occurrence of sleep is highly salutary in fever requires for proof (Dr. Haycraft adds) only the concurrent testimony of all observers, provided the sleep be not of a comatose kind. Even the nurses of our public institutions will frequently form a favourable and correct prognosis when they say, in hospital phrase, 'the patient is sleeping an end,' and the event seldom falsifies the prediction."

Our author examines into and comments on the opinions of Sydenham, Van Swieten, Boerhaave, Friend, Richter, Cullen, Mason Good, Potter, Armstrong, &c., as to the employment of opium in fever. He remarks that both Sydenham and Van Swieten mention delirium as the symptom which indicates its use, but that from most of the authors above named "placing this drug at the *end* of their lists, it might fairly be implied that it is only to be given at the termination of the disease—certainly not at its commencement."

The presence of inflammation is far from contra-indicating the use of opium in fever. Drs. Stokes and Graves have shown that in peritonitis the inflammation may be subdued by the use of opium alone, even when the intestine has been perforated.

Some of the conclusions of Dr. Stokes, as quoted by Dr. Haycraft, are, that where antiphlogistic measures are inadmissible, the administration of opium in large doses may be made with benefit, and that its effect is then to raise the vital power. Our author believes that this effect may be "partly due to the production of sleep, which, however induced, must act beneficially on depressed vitality; that it should subdue irritability may, I think (says Dr. Haycraft) be fairly attributed to the same operation."

Dr. Haycraft lays great stress on the injunction that the remedy should be administered in *full* doses. A small dose, as he avers, will only irritate, and therefore increase restlessness and delirium; and the later opium is used in the progress of the fever, the more decided he considers will be its beneficial effects; if given on the fourteenth day from the attack, is will, he says, usually produce a most decided critical sleep; "the fever is actually cut short." Earlier than the eighth day, he states that he has, from the nature of his practice, not had opportunities of giving it, but he would not hesitate to employ it after the sixth day, provided *restlessness*, *sleeplessness*, or *delirium*, were present. This treatment of fever by opium is not, however, he cautions us, to supersede other remedies which may be specially required to combat concurrent symptoms — wine, brandy, diffusible stimulants when exhaustion takes place, sulphuric acid in large diluted doses, when colliquative sweats exist, or a scruple of calomel with or without opium, when the congestion of collapse occurs in the brain, lungs, or abdomen. He does not consider opium in suitable dozes a remedy in anywise contra-indicated for children suffering from fever.

Dr. Haycraft cites several cases which have occurred in his practice, illustrative of his views. The following are the conclusions at which he has arrived:—

> "1st. That opium may be safely given after the sixth or eighth day of a continued fever.
>
> 2nd. That it will be most beneficially prescribed when restlessness, insomnolentia, delirium, or sinking, takes place.
>
> 3rd. That a drachm of the tincture of opium, or an equivalent quantity of any other preparation of opium, is not too large a quantity for an adult.
>
> 4th. That opium being an antiphlogistic remedy is not contra-indicated by inflammation.
>
> 5th. That opium succeeds best after purgatives—that if these have been neglected, it should be joined with a purgative; if the symptoms urgently require its use, it may be combined with diuretics.
>
> 6th. That opium given in the latter stages of fever, in sufficient doses, raises the vital powers, abates irritation, subdues inflammation, and most frequently induces a sleep which becomes truly the crisis of the disease."

On the Precursory Convulsion of Measles. By CHARLES EDWARDS, M.D., M.R.C.S., &c., Cheltenham. Post, pp. 3. THE LANCET office.

DR. EDWARDS calls attention to a "constant attribute" of those fits which occur, about the third day of the eruptive fever of rubeola, which he would hence name "simple, primary, or precursory rubeolous eclampsia," in contradistinction to those appearing within the eruptive period coincident with a sudden retrocession of the rash, and which may be named "comatose." The precursory fits of measles cannot, he says, be assigned to difficult dentition, which, as often as otherwise, may not even co-exist.

> "The peculiarities of the precursory eclampsia of measles are—
>
> 1st. The suddenness of the fit; its only premonition being the minor antecedents just named, cough, &c.
>
> 2ndly. Its extreme severity while it lasts.
>
> 3rdly. Its short duration, scarcely allowing the med-

ical attendant to arrive to witness more than its termination.

4thly. Its being succeeded by almost immediate consciousness, without any appreciable tendency to coma or sleep.

5thly. Being, (as far as Dr. Edwards has observed,) invariably *solitary*, and thus widely contrasted with other eclampsia, or at least with those comatose intermediary convulsions consequent upon a sudden recession of the eruption.”

It is to the *state of the pupils*, after the fit, in the primary eclampsia, that our author would specially direct attention :

> “These will be found equally and immensely dilated, and upon the sudden approach of light, or the point of the finger, they will instantly and equally contract almost to a point, with the recoil of a distended elastic ring. By removing the finger suddenly, they fly as wide as before, and the most delicate degree of contraction may be immediately regained, and kept up by a proportionate distance of the light, &c.
>
> “That the dilated pupil should contract by light, and under other circumstances, is not unusual. But it is the peculiarly sudden obedience of the pupils to any degree of stimulus, far beyond that of even a healthy pupil, and their easy and instant recoils, that I have lately observed so constant after, and so characteristic of, the precursory fits of measles.
>
> “These eclampsia are invariably succeeded by a bright rubeolous eruption, within twenty-four hours from their accession, the developed cases always, in my experience, proceeding benignly, and to a salutary issue, and thus differing from scarlatinous cases.
>
> “If called to a fit which has invaded suddenly, and terminated speedily, &c., examine both pupils, and if you find their peculiarly delicate obedience above described, you may safely pronounce the fits rubeolous, and predict the eruption within twenty-four hours. The hazard of this prediction will be reduced to homœopathic worth if measles be epidemic at the time. and the history of the case involve the ordinary antecedents: and further, as to prognosis, you may safely relieve the friends from that alarm which is the too natural sequence of some other eclampsia.”

On a Case of Ramula; Rupture of the Tumoud, Exit of a Large Salivary Calculus. Translated with Remarks, by J. L. Milton, Esq., London. Post, pp. 6. The Lancet office.

Joseph B——, aged thirty, gardener to the Orphan Society of Caen, of a sanguino-bilious temperament, went to bed quite well, but on rising next morning he found some heat and uneasiness in the right cheek and side of the neck, which, however, did not prevent him from going to work. At mid-day any movement of these parts became difficult and painful, and in the evening he suffered so much that he was obliged to go to bed earlier than usual. He grew hot and agitated, the state of his tongue producing more and more inconvenience. At ten o'clock he thought he was about to die of suffocation, and could not speak a word. In vain was drink offered to him; his mouth was so filled and distended that it was impossible for him to make the least attempt at deglutition. Nevertheless, towards midnight, thinking he might find some relief from attempting to swallow a little warm liquid, he got at a cup of ptisan, but had scarcely gulped down a few drops when he felt a violent sensation of burning under the tongue. He carried his finger to the place, and found something like a pouch, long, hard, and pushing the organ back towards the palate. He endured this torture more than an hour, when all at once a solid body appeared between his teeth. Somewhat frightened, he broke it by a convulsive movement of the jaws, one part falling into his hand. The patient experienced immediate relief. The rest of the calculus was subsequently removed; in its entirety it appeared to have been about two inches in length, and half an inch in breadth.

Mr. Leclerc, from whose account this case is translated, thus explains the progress of occurrences :—The calculus, formed a long time ago, shaken by some circumstance or other, had probably quitted the cavity in which it had been formed, and had proceeded in the direction where it met with the least resistance; perhaps also the burning ptisan hastened the rupture of the obstacle, which prevented it (the calculus) from making its way out. Although in not very rare cases salivary calculi have been seen to cause ranula, we do not know that one has been seen of this size, nor attained such a development, without producing very well-marked symptoms. The prompt cure, he adds, which this patient experienced ought to lead the practitioner to make certain, when he has a ranula to treat, that the malady is not caused by a calculus of this kind; for not only may we assume that the cure will be more simple and easy in such a case, but a method will doubtless be taken by a simple operation to give issue to the calculus.

On a Case of Labour, with Procedentia Uteri. By P. J. Hynes, M. D., Beeston, Notts. 12mo. pp. 7. The Lancet office.

The wife of a labourer, who had been subject to a prolapsed state of the uterus, and on one occasion to a profuse uterine hæmorrhage, during her pregnancy, was attended in her labour, in November last, by Dr. Hynes, who found, on examination, a large substance of the size of a fœtal head, projecting from the vulva, which, from its elastic feel, he at first thought to be the placenta. Upon closer examination he discovered an oblong aperture capable of admitting three fingers, through which he was able to feel the membranes protruding. The projecting tumour he discovered to be a large portion of the uterus, dragging with it the inferior part of the bladder. As the expulsive pains were violent, Dr. Hynes even feared the inversion of the whole pelvic contents; he, therefore, without delay, ruptured the membranes, and while maintaining steady support to the projecting substance, extracted a fœtus of about six months, which survived a few hours. Little or no hæmorrhage ensued, and the patient progressed satisfactorily at first, but having imprudently got up within thirty-six hours from the labour, in contravention of the directions of her medical attendant, she became delirious and feverish, and sank eight days afterwards, the pulse, that “*res fallacissima*,” having maintained regularity throughout her fever. Dr.

Hynes incidentally remarks, that a practitioner in Nottingham, who has a large midwifery practice, has assured him that he had met with no instance similar to the above, though he recollects that Dr. Lever once detailed the particulars of one to his class. The Lancet of 1846, also records a case, similar, in some of its features, and extracted from one of the British-American journals.

On a Case of Poisoning by Oxalic Acid, and Recovery. By R. C. Bourne, Esq , Nottingham, late Assistant-surgeon 3rd Dragoon Guards. Folio, pp. 4. The Lancet Office.

Mr. Bourne was called to visit the wife of a sergeant of his regiment, who had taken, for the purpose of self-destruction, three drachms of oxalic acid in about three ounces of water. He arrived a quarter of an hour after the occurrence, and found the woman suffering nausea, with eructations; pulse natural; breathing regular. The stomach-pump being at hand, the contents of the stomach were forthwith evacuated, and the organ was cleansed by being washed out four or five times. Subsequently there were convulsions, spastic contractions of the muscles of the jaws and extremities; forcible closure of the mouth, and drawing down of its angles; dilated alæ nasi, corrugated eyebrows, twitchings of the muscles of the face, and insensibility. Lime water was now administered. Great cerebral excitement afterwards occurred, accompanied by dry coldness of the surface, and an imperceptible pulse; symptoms less marked during the intermission of the tetanic spasms. Bleeding was now resorted to; twenty ounces of blood in all were lost, and in about three hours from taking the poison, the spasmodic symptoms declined. Burning sensation and pain on pressure were felt in the throat and epigastrium. Hot jars to the feet, and castor oil, at this time, and on the succeeding days calomel with morphia, leeches, opium, turpentine enemata, a blister to the epigastrium, and finally, bitter tonics, formed the chief remedies administered; convalescence was complete in about twelve days from the attempt at suicide.

Mr. Bourne remarks that the treatment he adopted was not precisely in the order laid down in books, where the use of the antidote—lime—is recommended prior to that of the stomach-pump. In this case the latter was at hand, and the former was not, when the surgeon was called; by the use of the pump, also, the least time possible was allowed for the poison to be absorbed; and although by washing out the stomach, and diluting the poison that was left, a large absorbent surface was exposed to its effects, Mr. Bourne considers that this was preferable to any concentrated solution of the acid being suffered to act on a defined portion of surface for a length of time. The author adds, that in a note in Beck's "Medical Jurisprudence," it is stated, "the tetanic convulsions witnessed in quadrupeds (under the influence of oxalic acid) do not seem to occur in the human species." In the case above narrated, however, they were well marked, and for a month afterwards the face and extremities were subject to spasmodic twitchings. Three months subsequently, the woman re-enjoyed good health.

The Introductory Address at the Opening of the Bristol Royal Infirmary Medical Society, January 9th, 1851. By George Wallis, M.D., Senior Physician to the Infirmary. Folio, pp. 4. The Lancet Office.

The abstract of this oration, which has been forwarded to us, evinces that it was one well suited to the occasion. We regret that we have not space to publish it entire, but shall extract one or two sentences which impress us with their piquancy and truth. Speaking of the advantages of debating societies, in training the mind to grapple closely with argument, and cultivating an acuteness of intellect and readiness of repartee, Dr. Wallis says,—

> "Your intellects will be strengthened and polished by the rubs and hits you will give one another in discussion, much as I have seen cannon-balls perfected by putting a number of them into a large iron barrel, and turning it rapidly round, when the hammering they give each other not only brightens them, but renders them perfectly spherical. These benefits have been found practically useful at other societies of a like nature. The Royal Medical Society of Edinburgh was of great use to myself; King's College Medical Society, on the plan of which yours has been formed, has been also of great benefit. Ours may be yet only a minor star in respect of these; but we hope that it will become eventually as useful as either of the other societies. Hence comes the advantage of a debating society. You must prove your own opinions to be true as far as proof can be obtained; when proof cannot be obtained directly, you must still find means to satisfy with reasonable and fair deductions."

On the Administration of Chloroform so as to ensure Safety in its Application. By J. Keene, Esq., Dentist, Boulogne-sur-Mer, formerly House-surgeon at St. George's Hospital. Folio, pp. 6. The Lancet Office.

After some observations on the spasmodic clutchings of the apparatus containing the chloroform as having been productive of various involuntary suicides, Mr. Keene assures us, that, independently of cardiac, pulmonary, or cerebral disease, forming a contra-indication to the employment of this powerful agent, he never resorts to its use on ascertaining the existence of *hysteria:*

> "There is no condition (he says,) however severe, in which it is more hazardous, nor one in which the agent affects more speedily the heart's action; although merely a functional disturbance, it is highly dangerous, when it exists, to employ chloroform without great caution and discrimination."

The means adopted by Mr. Keene for the administration of chloroform are the following—

> "I form a towel into a cone, with an apex of sponge at its bottom, I then drop about two drachms of chloroform on the sponge, and apply the apparatus thus formed to the nose and mouth, withdrawing it frequently to admit of respiration. I keep my hand on the pulse constantly, and when I find it depressing the system very much, I withdraw the towel for a moment or two until the reaction of the pulse takes place. I then

more plentifully administer the chloroform, and with constant success."

It is averred by writers in our pages, that some immunity from danger consequent on the use of chloroform has been provided by applying the anæsthetic agent to one nostril only, leaving the other free for the access of atmospheric air, to the *total* exclusion of which, during respiration, fatal events have been attributable. (See remarks by Mr. Bodington in THE LANCET for October last) Dr. Cattell, in a recent number of our journal, drew attention to another important principle which we could wish other observers would investigate, for confirmation—viz., that danger is likely to ensue when a respired gas has a greater specific gravity than atmospheric air.

Mr. BORHAM has forwarded to us a paper embodying some interesting observations on the "Fatality and Ill-results of Small-pox from Neglect of Vaccination," derived from his experience, in the summer and autumn of 1849, while assisting a gentleman in practice in the Forest of Dean, Gloucestershire. The epidemic, he states, had not appeared in the Forest for twenty years in so virulent a form; and only a few cases having occurred within that period, the peasantry, from a too fatal security, combined with prejudice, had so far neglected vaccination, that out of eighty patients, Mr Borham could only trace five who had been vaccinated. All those five who were attacked, recovered; four had it in a very mild shape, but one, a lad fourteen years of age, had small-pox in its severest confluent form. Amongst the remaining seventy-five, their ages varying from two months to fifty-two years, the average of deaths was one in five cases. Mr. Borham says,—

"I could not but remark in this epidemic how few females were attacked with small-pox, compared with males, and still more singular, how very few died, compared with the stronger sex.

"All the infants, of whom there were ten or twelve, recovered, with the exception (if my memory do not fail me) of one. *Two* of these infants had pustules on the cornea, and went blind. How quickly does this structure become irremediably disorganised when attacked with variolous poison!

"In none of the above cases could I ascertain that they had been *inoculated*, or had had variola previously."

Mr. Borham had the opportunity of vaccinating the patients who manifested the *premonitory* symptoms on his attendance, and he carefully remarked that the result was "a modification and less severe form of the disease, and all the patients recovered, with but trifling symptoms and little inconvenience. The pustules were few and far between, and partook of the character of chicken-pox, and the systemic disturbance was proportionally slight."

Biographical Sketch
OF
BENJAMIN TRAVERS, ESQ., F.R.C.S.

SURGEON EXTRAORDINARY TO THE QUEEN, AND SURGEON IN ORDINARY TO H. R. H. PRINCE ALBERT.

BENJAMIN TRAVERS was born in the year 1783. He is therefore now in the sixty-eighth year of his age. His father was an eminent sugar-baker, in Queen-street, Cheapside. His mother was the daughter of the Rev. Francis Spilsbury. Joseph Travers, father of Mr. John Travers, the present head of the great grocery house in St Swithin's-lane, and the father of the subject of our present sketch were twin brothers, so that it would have been difficult to have had a better city descent. Travers has always been a great whig and dissenting name in the City; and in one election, since the Reform bill, a Travers was said to have returned all four of the City members. Mr. Travers, it should be observed. has always remained true to the whig predilections of his family.

He was the second of a family of ten children, and received his early education at a grammar-school at Cheshunt. He was afterwards under careful private tuition. His father intended him for mercantile pursuits, and placed him in his own counting-house. He, however, manifested great aversion to business, and having found his way over the bridge to Mr. Astley Cooper, then lecturing on anatomy with great spirit, he became fascinated with the profession, and his father apprenticed him to Mr. Cooper, at Guy's Hospital, August 1800, now more than a half century ago. During his apprenticeship he gave demonstrations on anatomy to his fellow pupils, and established a clinical society, of which he acted as secretary. These are all the details of his student-life with which we are acquainted. Without doubt he became an accomplished surgeon while yet a student. In those days studentship at a great hospital, and particularly at the Borough hospitals, was somewhat different from the student-life of the present day. Following in the steps of his great master, Mr. Travers early made himself a good anatomist, but the students in that day too frequently made themselves surgeons first and anatomists afterwards. A surgeon of that time would have scorned such a petty operation as one on a finger or thumb while he had his pupils about him; and it is related that a surgeon of St. Thomas's once allowed his pupil to amputate a leg for him! Then, practice went before theory; now, we may see a student bend his head with blushes at the praise he hears, and leave the theatre with a load of prizes, who nevertheless could not go coolly about an operation. We might descant on this subject, for both systems have their evils and their merits.

Mr. Travers passed the College of Surgeons in 1806, and the Continent being shut up by the war, he passed a year in Edinburgh, which the young physician or surgeon would now pass in Paris, Berlin, or Vienna. At Edinburgh he made the acquaintance of all the Scottish celebrities of the time, and busied himself in repeating the experiments of the illustrious Bichat on the blood. At the end of 1807 he returned to London, and soon afterwards married.

His first appointment was that of Demonstrator of Anatomy at Guy's Hospital. He was unable to get a place in the school, so that he applied to the treasurer, Mr. Harrison, who has only recently resigned the tresurership. This gentleman gave him a room to demonstrate in. This was the small room in which at a subsequent period the post-mortem examinations were made. Here he lectured with great *eclat*, particularly as at this time a great impetus and brilliancy had been given to the whole science of anatomy by Bichat's labours. This was nevertheless the most trying period of his life. Mr. Travers, like many of our great physicians and surgeons, had his early difficulties to contend with. When he was first married his finances were not very encouraging, notwithstanding his large connexions. His father had unfortunately fallen into considerable pecuniary difficulties. At one time he was actually on the eve of applying to the East India Company for an assistant surgeoncy, having resolved to seek his fortune in the East. It was at this juncture, and by the nearest accident that the appointment of surgeon to the East India Company's volunteers became vacant. In this election his city connexion came powerfully into play. He succeeded, though he became a candidate only a week before the election, and although he was opposed by Mr. Ramsden, one of the surgeons of St. Bartholomew's, and Mr. Lucas, the colleague of Mr. Astley Cooper, at Guy's. The volunteer corps was afterwards disbanded.

In the year 1810 he was elected surgeon to the London Infirmary for Diseases of the Eye, which had then been established about six years, and had obtained a solid reputation under the fostering care of Dr. Farre and Mr. Saunders. This appointment he held alone until 1817, but in 1814 an additional surgeon was appointed in the person of Mr. Lawrence. Here he laid the foundation of his fame, as we shall presently discover.

It may seem remarkable at the present day, but Mr. Travers was the first surgeon in general practice who ventured to become an oculist, and in doing so he was considered to have risked his rising reputation.

In his public address to the governors he laboured to impress upon them, that he undertook the appointment, not as an oculist, but as a surgeon. This point is also referred to in the preface to his Synopsis of the Diseases of the Eye, and it must be confessed that it is one of no inconsiderable merit. We find him saying —"In this country, I believe no one before myself, who designed to practice general surgery, ventured to give more than a cursory attention to diseases of the eye. A fear of being disqualified in public opinion by a reputation acquired in these, for the treatment of other diseases, was a motive, however groundless, sufficient to deter surgeons from the cultivation of a large and legitimate field of observation and practice."

Before the Cooperian era, opthalmic practice was in the hands of a set of ignorant persons, possessing no qualifications save assurance and mechanical dexterity. Charlatans went about the country, cutting for cataract, just as Friar Jacques did for the stone. Itinerants of this class almost monopolized eye practice. One of them, Baron Wenzel, as he was called, who has given his name to a cataract knife which still exists, was one of the most celebrated operators for cataract at the close of the last century. He was frequently sent for from great distances to perform the operation for cataract, and received large fees. *In early life, he had, it is believed been a German trumpeter!* It must be conceded, then, that when Mr. Travers took up the eye, and Sir Astley Cooper the ear, a step in advance of charlatanism was obtained.

Mr. Travers had previously contested the surgeoncy at St. Thomas's Hospital with Mr. Henry Cline, son of the great Cline, but in 1815 he was unanimously elected to succeed Mr. Birch as full surgeon. In the next year he took Mr. Cooper's house in Old Broad-street, where he resided till 1828. For a year or two after his appointment to the hospital he lectured conjointly with Mr. Cooper, but his health obliged him to retire from lecturing, in the prime of life. About the same time he resigned his post at the Eye Infirmary. For about twenty years his career in the City was most successful and lucrative, his receipts being, at their greatest height, over £6000 a year. Unfortunately, his health did not permit him to continue the onerous duties of so large a practice with safety. He made several attempts to relieve himself; amongst other things, he had a country house at Walthamstow, but he could not overtake his work. Acting under the advice of friends, and with the intention, not of increasing, but of diminishing, his practice and his labours, he removed from Old Broad-street to Bruton-street in 1828. He at once took a high position at the West-end, but not the highest, which was already occupied by Sir Benjamin Brodie, and for which Mr. Travers could have had no ambition. Such we now believe to have been his motives for removal, a step which has been much canvassed and criticised, and which, though it could take away nothing from a reputation so solid as that which he had acquired, did undoubtedly subtract materially from his income. He has had, however, his reward in renewed health and a sound maturity of mind and body, which could scarcely have been his lot in the whirl and harass of incessant labour in practice. In 1834 he resumed his lectures on surgery at St. Thomas's Hospital, in conjunction with the late Mr. Tyrrell. In 1840 he resigned the office at St. Thomas's Hospital, after holding it for twenty-five years.

Mr. **Travers** was no exception to the general rule, that great physicians and surgeons seldom succeed to any large extent, before the age of forty. There have undoubtedly been instances of precocity, but these have seldom held their ground permanently. The great fortunes of the profession, few and far between, have certainly been made after that age. It is said of Cline, who made £200,000 by surgery, that at forty he was borrowing money! Mr. Travers succeeded, however, in the city beyond the ordinary run of even successful surgeons, and was in the deep waters of practice while Sir Benjamin Brodie was only coming into work at the West-end. As soon as he obtained the surgeoncy to the Indian volunteers, he was independent; and when he was appointed at St. Thomas's in 1815, his position was perfectly safe. The emoluments from the hospital alone amounted, at that time, to £800 a year, or thereabouts. Those were palmy days for hospital surgeons, now, alas! unknown.

Mr. Travers was elected a fellow of the Royal Society in 1813. In 1828 he was elected president of the Royal Medical and Chirurgical Society—an office which he filled with credit and dignity. He is now the Nestor of the Society, being the oldest living fellow, we believe, and he never appears at the Society's meetings without receiving the most marked attention and respect. In 1833 the Council of the College of Surgeons elected him into their body, and he subsequently became a member of the Board of Examiners. He has filled the offices of vice-president and president of the College. He delivered the Hunterian oration in 1838; of this composition it is sufficient praise to say that it has been to a great extent copied by some of the best orators who have subsequently appeared upon the stage. Soon after the accession of her present Majesty, he was appointed one of the Surgeons Extraordinary to the Queen. He has since been appointed one of the Surgeons in Ordinary to Prince Albert. Thus Mr. Travers has passed through all the honours which usually attend the career of distinguished surgeons in our day, only not taking the very highest distinctions which are possible to the profession.

Mr. Travers was never celebrated as a rapid, dashing, or showy operator. His ill-health at the time of life when operating renown can alone be won, sometimes gave him the appearance of nervousness or un-steadiness, though he really possessed neither the one nor the other. If he seemed at times to lack some of the essentials of a perfect operator, the seeming arose from the mere powers of manipulation, not from any failure of internal will, or the higher powers of a great anatomical surgeon. Frequently, however, his operative dexterity was most admirable, and he has often, in the operating theatre, received the public commendation of his great master and colleague, Sir Astley Cooper. One thing respecting his operative career all have allowed—namely, the remarkable safety that has followed his knife, which is certainly one of the tests, and not the meanest test, of sound and genuine surgery.

As a speaker and lecturer, Mr. Travers was remarkable for the evidence of purpose and plan in all he said or delivered, rather than for picturesqueness, and efforts at making telling points. His diction, both in speaking and writing, is chaste, scholarly, sustained, and full of illustration. He may be said, more than any other man, to have given the fashion to the somewhat severe and dignified surgical style which distinguishes the writings of the older living surgeons of the present day, and many of those who have passed away since the time of Sir Astley Cooper. The works of Mr. Travers bear upon every page of them the impress of scholarship and careful thought and composition. He must have entertained a high sense of the responsibility which attaches to any one who sits down to write for his fellows. Nevertheless, his works have been, as the list of them shows, large and numerous.

We will venture so far as to say that one prominent circumstance is elicited by the study of the writings and career of Mr. Travers—namely, the unity and interdependence which subsists between medicine and surgery. He does not write to prove this, but his writings furnish the proof, if any proof were wanting. We may go a step father, and say that the mind of Mr. Travers is more pre-eminently medical than surgical. Happy is it for surgery that such men devote themselves to its cultivation. A great surgeon Mr. Travers undoubtedly is, but we may be pardoned for saying that he would have made a still greater physician.

Mr. Travers is at the present time erect, large-framed, and robust in appearance. His height is about five feet ten inches. Nevertheless, he has always been subject, particularly in the early part of his career, to functional derangement of the heart. His first attack of violent palpitation was brought on by a lengthened speech he delivered in the Medical Society at Edinburgh, during his stay at the university. After that time it was a frequent hindrance to him in his professional career. On one occasion he had an alarming attack of syncope, at St. Thomas's Hospital, and was carried away with the expectation that it must prove fatal. This malady obliged him to relinquish the lectures he delivered in the Borough in conjunction with Astley Cooper, and the continuance of which would have been of the greatest consequence to his reputation and practice. The same cause was, we believe, mainly instrumental in his removal from the City to the West-end. Of late years it has been much less troublesome than formerly, and indeed, seldom or never appears unless from exhaustion or dyspepsia.

His works may be divided into three series—his formal Volumes; his Papers published in the Medico-Chirurgical *Transactions;* and his Lectures on Clinical Surgery, which appeared in the St. Thomas's Hospital *Medical Reports*, which have been discontinued.

The clinical lectures published in the St. Thomas's Hospital *Reports* do not call for any special notice. They were ten in number, and embraced a considerable range of subjects. The most important of them related to diseases of the male urethra.

The papers contributed by Mr. Travers to the *Medico-Chirurgical Transactions* are amongst the most important of his labours. They extend from the second to the twenty-first volume, and consist of ten papers. The last, published in vol. xxi., is among the most important; it is a description of an operation performed by Mr. Travers, for the entire removal of a diseased Clavicle, the first case of the kind ever put on record in this country. This case is the more important now, when excision and resection of bones are become so much the fashion. The boy who was the subject of it recovered the use of his arm, and could row a boat, or perform any other exercise with readiness and agility.

In 1812 Mr. Travers published a volume, entitled "An Inquiry into the Process of Nature in Repairing Injuries of the Intestines, illustrating the Treatment of Penetrating Wounds and Strangulated Hernia." It is worthy of note, that the drawings for the excellent engravings of this work were made by Mr. Hodgson. The friendship between these two eminent members of our profession has remained uninterrupted to the present time. The experiments detailed in this work were of the most interesting kind. It was here Mr. Travers first showed that when a ligature is placed on the intestine of the dog, the inflammation which ensues leads to the perfect restoration of the canal, all that remains of the ligature being a faint line upon the serous coat. The serous membrane above and below the ligature inflames and adheres, and the ligature sloughs off internally, and passes down the canal. The intestine upon which this interesting experiment—one which was often referred to by Abernethy in terms of the highest praise—was performed, is still preserved in the museum of St Thomas's Hospital.

In 1818, Sir Astley Cooper and Mr. Travers published a volume of Surgical Essays, to which Mr. Travers contributed papers on Iritis, Phymosis, and Paraphymosis, and Wounds and Ligatures of Veins. The first of these, the Essay on Iritis, is in our opinion, the most excellent, for its length, of all the works he has published, and it has certainly been the most fruitful in its results to pathology and therapeutics, as we shall presently show.

In 1820, he published "The Synopsis of the Diseases of the Eye, and their Treatment." This was the earliest systematic work on ophthalmic medicine and surgery published in this country, and must be considered as the parent work to all those which have succeeded it.

That which is generally considered his greatest work, "the Inquiry concerning the disturbed state of the Vital Functions usually denominated Constitutional Irritation," first appeared in 1824. It is by this work Mr. Travers is best known on the continent and in America. It has passed through numerous editions. Criticism in such a case is superfluous, and is foreign to our present object. The work is throughout a splendid development of the Hunterian and Abernethian doctrines of constitutional influence in the production and sustentation of local disease. In it are traced, with the mind and pen of a master, the influences acting within the body, both in centrifugal and centripetal directions; the effects of the constitution upon locality, and of locality upon the constitution.

He published a "Further Inquiry concerning Constitutional Irritation, and the Pathology of the Nervous System," in 1835, equal in size and elaboration to the former work. In the preface to this volume the author refers to the time during which this subject has been his especial study. For ourselves, we should say of this work of Mr. Travers, that which he says would have been the case had his subject fallen into abler hands; it is a "Discourse on the Philosophy of

SURGERY," and such an one as no other great surgeon has attempted.

In 1830 the "Observations on the Pathology of Venereal Affections" were published. Mr. Travers entertains, even to the present day, peculiar views respecting syphilis and gonorrhœa. He maintains, we believe, that there is but one poison for both gonorrhœa and syphilis, and that gonorrhœal matter, applied to a raw surface, produces a specific sore, incurable except by mercury. We are bound to say, that we believe this pathological view, which ruled so long in British surgery, has been disproved by the experiments and observations of M. Ricord. This eminent surgeon teaches, on the contrary, that no gonorrhœa can give rise to syphilis, unless the urethra be the seat of chancre, a combination of blennorrhagia and syphilis, which frequently exists in the same subject.

The last formal work of Mr. Travers is the volume on the "Physiology of Inflammation to the Healing Process." This was published in 1844. It exhibits great power, and a familiarity with the latest investigations which had been made into these subjects at that date. Some of the most reputed physiologists of the present day have admitted that this work of Mr. Travers was the leader and pioneer of the recent investigations into inflammation by the microscope, and that it mainly gave rise to the valuable and laborious investigations of Mr. Wharton Jones, Mr. Simon, Dr. Hughes Bennett, and others, who have contributed so largely to the elucidation of this great subject.

We cannot better bring the present sketch to a conclusion than by a reference to one of the most important matters arising out of the distinguished career of Mr. Travers.

Undoubtedly one of the greatest improvements in modern practice—one of the greatest powers we employ in the mitigation of disease—lies in our knowledge of the effect of Mercury in arresting inflammation, and the results of inflammation, in all the tissues of the body. This constitutes, in fact, one of the highest therapeutic laws we possess. But it did not arise and become perfected all at once, or by chance. It was in great part a gradual development and extension of the happy observations of Mr. Travers and his colleagues in his early ophthalmic practice. Mercury had been used freely enough in syphilitic inflammation long before the time of Mr. Travers and his contemporaries, but its use in non-syphilitic inflammation was only of the coarsest and most unsatisfactory kind. Bleeding had previously been the great and almost the sole antiphlogistic, and this remedy was commonly wielded with a violence unknown to recent times. It was the ophthalmologists, Dr. Farre and Mr. Travers, who first ascertained, at the Royal Ophthalmic Hospital in Moorfields, then the London Infirmary for Diseases of the Eye, the remarkable power of mercury in controlling every variety of inflammation of the iris, syphilitic and non-syphilitic. In the third edition of his "Synopsis of the Diseases of the Eye," Mr. Travers makes an unreserved, and we believe, a perfectly well-founded, claim to this brilliant improvement in practice. He says in a note (p. 135), "I think it right to state that the salutary effect of mercury in iritis, unassociated with any specific action, was an observation made at the same time by Dr. Farre and myself, at the London Infirmary for Diseases of the Eye. It was first given to the public in the second edition of Mr. Saunders's work, then in the press. I am quite satisfied that the observation was original, notwithstanding all the attempts of the German scholars to convince us that at Vienna and elsewhere it was a matter 'lippis et tonsoribus notum.'" The treatment of iritis by mercury is, indeed, a beautiful experiment, every phase of which can be seen and accurately noted. In this disease we can watch the effects of the remedy, and see the extent to which the effusion of lymph, and its consequent mischiefs are prevented; or to which the lymph, once deposited, is capable of being absorbed. It is to Mr. Travers—particularly to his Essay on Iritis, in the volume of Surgical Essays published by Mr. Travers and Sir Astley Cooper conjointly in 1818,—that the members of the profession are mainly indebted for the promulgation of this discovery, and for its extension from iritis to the treatment of inflammation in all tissues. In the essay alluded to, the first and most important deduction made by the author is, that "the view which, in the case of iritis, we are enabled to take of the operation of mercury upon a part undergoing the adhesive inflammation, ought not to be confined to this case; *it must be capable of extension and application to other organs in a similar condition.* We now use mercury in a thousand instances, and in a great variety of forms and modes, internally and externally, to combat inflammation, and save inflamed parts from injury or destruction; but all these applications are a development of the visible effect of the mineral in iritis. If any one wishes to illustrate in the most forcible manner the influence of calomel in subduing acute inflammation, he points to the adhesion prevented, the effusion stopped, and the form, colour, and texture of the delicate iris preserved, under intense disease of this structure, by the influence of mercurialization. But few reflect on the fact that it was from what was observed in the transparent chambers of the eye that mercury went forth to the assistance of unseen organs, threatened with similar dangers. Few consider the steps by which we have slowly arrived at this noble generalization. First, the syphilitic iritis was seen to yield to mercury; then, the non-syphilitic inflammation of this finely organized muscle was found to be controllable by the same means. Next, the great step was made by numerous observers and practitioners in all countries, of applying this fact to the whole field of inflammation; and lastly, it has taken the form of a consistent doctrine, experiments and observation teaching us to a great extent how mercury acts upon the living blood and blood-vessels. Altogether, we must consider this matter a splendid contribution from ophthalmic medicine to general medicine and surgery, and one, of which the parties to its realization, but especially Mr. Travers, may well be proud. As long as medicine lasts, its beneficial influence must be felt in the alleviation of human suffering and disease.

THE GOLD USED BY DENTISTS.—The public and the medical profession generally are not aware of a very fruitful source of disease which arises from the introduction into the mouths of many thousand persons of metallic plates and other apparatus for the securing artificial teeth. These plates &c., are nominally constructed of gold, but in point of fact, in innumerable instances, there is little or no gold used in the construction of them; silver gilt, or some still baser metal, is employed, which being acted on by the acids of the stomach, produces a poison which insidiously undermines the health, causing cancer and other diseases. The false delicacy of the sufferer, and his ignorance of what causes his complaint, prevent him from receiving such advice as would meet his case. This imposition on the public admits of a most simple remedy; it is merely compelling all persons who are employed in the trade or profession of making such plates, springs, &c., to have them stamped at the Goldsmiths'-hall, and a standard enforced which would guarantee the security of those by whom they were required.—*Times.*

Analytical Sanitary Commission.

RECORDS OF THE RESULTS OF

MICROSCOPICAL AND CHEMICAL ANALYSES

OF THE

SOLIDS AND FLUIDS

CONSUMED BY ALL CLASSES OF THE PUBLIC.

"Forewarned, forearmed."

PEPPER,

AND ITS ADULTERATIONS.

THE family of plants comprehended in the term *Piperaceæ* contains four species of great utility to mankind; two of these, *piper nigrum*, or black pepper, and *piper longrum*, more recently *Chavica Roxburghii*, or long pepper, are chiefly employed for dietetic and culinary purposes; whilst the others, *piper Cubeba*, now *Cubeba officinalis*, and *Artanthe elongata*, or the matico plant, are, in Britain at least, exclusively, used in medicine.

The plant, *capsicum annuum*, which yields cayenne, often improperly termed cayenne pepper, does not belong at all to the family of piperaceæ, but to that of *Solenaceæ*.

The pepper of commerce is furnished by the piper nigrum, which therefore is the species that will claim our attention on the present occasion.

The black pepper plant grows both in the East and West Indies, in Sumatra, Java, and other islands; it is a shrubby, climbing plant, which attains the height of from eight to twelve feet; the berries, or peppercorns, grow on terminal flower stalks, or spadices; they are at first green, but change subsequently to red and then to black. When any of the berries on a spadix have begun to turn red, the whole are gathered, dried in the sun, and the stalks separated by the hand. In drying, the succulent part of each berry becomes contracted and wrinkled, forming a hardened cortex; the corrugations are much raised, and describe a kind of elevated network.

The following more detailed particulars are extracted from M'Culloch's "Dictionary of Commerce."

"It climbs to the height of twenty feet, but is said to bear best when restrained to the height of twelve feet. It begins to produce at about the third year, and is in perfection at the seventh; continues in this state for three or four years, and declines for about as many more, until it ceases to be worth keeping. The fruit grows abundantly from all its branches, in long, small clusters of from twenty to fifty grains; when ripe it is of a bright-red colour. After being gathered, it is spread on mats in the sun, when it loses its red colour, and becomes black and shrivelled as we see it. The grains are separated from the stalks by hand-rubbing. That which has been gathered at the proper period shrivels the least; but if plucked too soon, it will become broken and dusty in its removal from place to place. The vine produces two crops in the year, but the seasons are subject to great irregularities."

Those berries are the best which are not too small nor too much corrugated; which are heavy, and sink readily in water.

The two varieties of pepper known as "black" and "white" pepper are both obtained from the same plant; black ground pepper is the entire berry reduced to powder, while the white consists of the same berry, decorticated or deprived of its outer and black cortex.

We learn from Pereira that three kinds of *black pepper* are distinguished by wholesale dealers.

"*Malabar pepper*.—This is the most valuable; it is *brownish black*, free from stalks, and nearly free from dust."

"*Penang pepper*.—This is *brownish-black*, larger, smoother, free from stalks, but very dusty. It is sometimes used in England to manufacture white pepper."

"*Sumatra pepper*.—This is the cheapest sort; it is *black*, mixed with stalks, and contains much dust. Under the name of Sumatra pepper, some dealers include the Penang or brownish-black sort, and the black Sumatra sort.

Three kinds or varieties of *white pepper* have also been distinguished.

"*Tellicherry pepper*, which is of two kinds: large or fine Tellicherry pepper is larger and whiter than any other description of white pepper, and fetches a higher price; small or coriander-like pepper is shrivelled."

"*Common white pepper* comes from Penang by Singapore; it is round, and not shrivelled; its value depends on its size and whiteness."

"*English bleached, or white pepper*.—When the two preceding sorts are scarce, brown Penang pepper is bleached. The yellowest and largest grains are chosen for this purpose, for neither an expensive nor small sort would pay."

ON THE ADULTERATION OF PEPPER.

It has long been notorious that pepper is one of those articles most liable to adulteration; notwithstanding which fact, and the importance of the subject in a fiscal point of view, but little has hitherto been effected in bringing to light the nature of the sophistications practised, and more particularly in describing the methods of their detection. Of statements indeed we have several, but of either proofs or directions scarcely any worthy of notice or entitled to confidence.

In support of these assertions, we proceed to make reference to the more important as well as recent authorities on the subject of the adulteration of food.

Thus in the "Supplement" to Dr. Ure's "Dictionary of Arts, Manufactures, and Mines," we do not meet with any information respecting the adulteration of pepper worth quoting.

In M'Culloch's "Commercial Dictionary" we observe the solitary remark, "Black pepper, sold ground, is said to be adulterated with burnt crust of bread."

In Mitchell's "Treatise on the Falsification of Food," under the head "Pepper and its Adulterations," we find the following observations:—

"In the state of powder, pepper is nearly always adulterated, substances being sold for the express purpose. It is often mixed with powdered husks of mustard, which are openly sold for this purpose, as is also the sweepings from the pepper warehouses, under the name of P.D. or pepper-dust; and yet an inferior kind of this adulteration is sold under the name D.P.D., signifying the dust, or dirt of pepper-dust."

No directions, be it observed, are given for the detection of the adulterations referred to in the above quotation.

Normandy, in his "Commercial Handbook of Chemical Analysis," remarks, "Both *black* and *white pepper*, when ground, are very often adulterated, and sometimes in an extraordinary degree, with ground *oil-cake*, *linseed meal*, and other like substances. The best way of providing against adulteration is, like that of coffee, to buy the article in the grain, and to examine whether it has the appearance which we have described above, and which is the criterion of a good quality." And in a subsequent paragraph he writes, "For the purpose of ascertaining whether ground pepper is genuine and of good quality, the best way consists in ascertaining the amount of piperine contained in the pepper under examination."

Thus here, again, no instructions are given, by which the nature of the adulterations practised in each case may be determined, but the difficult chemical operation of ascertaining the amount of piperine present is recommended, and which, when known, tells us nothing about adulteration, but simply is indicative of quality; now a pepper may be either good or bad, and accordingly contain much or little piperine, and yet be perfectly "genuine."

Although the work of Mr. Normandy was published in the year 1850, not a syllable is said about the application of the microscope to the detection of the adulterations of pepper.

The last authority to whom we shall refer is Pereira, who, in the description of piper nigrum as contained in the new edition of his "Materia Medica," and under the head "Adulteration," writes, "Sago is said to have been used to adulterate ground white pepper. The microscope would readily detect the fraud; the starch grains of sago being very much larger than those of pepper, from which they also differ in shape."

The above paragraph comprises the whole that is said by Dr. Pereira on the adulteration of pepper.

We have now to state, that, by means of the microscope, and its application to the elucidation of structural botany, we have succeeded in detecting, in the most satisfactory and conclusive manner, the adulteration of pepper by not less than four different substances—namely, linseed, mustard-seed, wheat-flour, and pea-flour.

We will proceed to describe the structure of linseed, mustard-seed, and the characteristics of the starch of wheat, the pea and sago-meal.

Structure of Linseed.

The structure of the linseed is very beautiful; in it two coats or tunics require description.

The outer coat gives the polish to the seed, and is composed of several layers of large and colourless cells, of a rounded or hexagonal form.

It is in the cells which form this tunic that the mucilage which linseed yields so abundantly, on infusion, is contained.

Of this interesting fact a little observation with the microscope furnishes sufficient evidence: thus, in many cases, this instrument does the work of the chemist, and more than the chemist in some cases can effect, even in his own art and science: thus, not to pass beyond the limits of this paper, by means of the microscope we have determined three interesting facts, which may be denominated chemical—the position of the essential oil, and the nature of the contents of the yellow cells in the peppercorn, the tissue in which the mucilage of the linseed is located.

The second membrane is that in which the colour of the seed resides: it is composed of narrow, elongated cells, which give it a striated and very characteristic appearance; being firm and strong, it forms the protecting tunic of the seed.

The substance of the seed consists of cells, in the cavities or meshes formed by which the oil and starch granules are enclosed.

The oil is contained principally in the outer or more superficial cells, in the form of brilliant and pearl-like minute drops or spherules.

The starch granules are most abundant in the interior of the grain: they are angular, minute, and but two or three times larger than those of the peppercorn.

The very frequent association, in ripe seeds, of oil and starch—both non-nitrogenized substances, resembling each other so closely in chemical composition—is curious; and it suggests the consideration, whether the latter is not, in some cases, and under certain circumstances, convertible into the former. In those seeds, in which, when mature, as the coffee-berry, we do not meet with starch, we usually find oil to be present; and in many of these cases starch grains are actually contained in the unripe seeds or berries.

In linseed reduced to powder or meal, by a little patient investigation, the whole of the structures described may be satisfactorily detected. The parts, however, most frequently and clearly seen, are fragments of the fibrous coat, and little masses of starch, from the edges of which, portions of the cellulose forming the transparent cells project, in a radiate and very characteristic manner.

To discriminate the cases in which linseed-meal has been employed for the purpose of adulteration, from those in which the seeds from which the oil has been expressed have been used, we apprehend would not be difficult.

Structure of Mustard-seed.

The seed of mustard exhibits a very characteristic organization, by means of which, even when it is ground into powder, it may be readily detected.

We shall not at present offer a detailed description of its structure, but will merely notice, in a very brief manner, the chief tissues which enter into its composition.

The external membrane is formed of large, transparent, and nucleated cells.

The second tunic is constituted of very minute, angular cells, which contain part of the colouring matter of the seed.

The third coat is likewise composed of angular cells, two or three times larger than those of the second investing membrane, and with well-defined parieties; they also enclose colouring matter.

The seed itself consists principally of cellulose, the cells of which are filled with oil-globules, and contain but few starch granules.

Characters of Wheat-flour.

As we shall hereafter have to describe fully the structure and characters of wheat-flour, it will be sufficient, at present, to say, that the grains are rounded, flattened discs, very variable in size, and without lateral shading or distinct concentric rings.

Characters of Pea-flour.

The principal characters of the starch granules of the pea have already been adverted to in the Report on Coffee: they are oval bodies, with strong lateral shading, and provided with an elongated central cavity or hilum.

Characters of Sago-meal.

The starch granules of which it is composed are large, oval, or rounded, at one extremity, and truncate at the other, with a circular hilum, often cracked in a stellate manner, and with but few rings or laminæ visible.

On Pepper-dust.

Pepper-dust, as known in the trade P.D., or H.P.D., that is, hot pepper-dust, consists either of the sweepings of the floors of the spice-warehouses, or of the siftings of the whole pepper-berry.

It is used to mix with ground pepper, and although a very inferior article, its admixture with pepper cannot be regarded as an adulteration.

Its presence is to be suspected in those peppers which present a dry, earthy appearance, and the powder of which is extremely fine.

Several of the samples presented the above-described characters, and therefore, in all probability contained a considerable quantity of H.P.D.

On Pepper-husks.

The pepper-berries from which white pepper is made, are usually imported in a decorticated state; sometimes, however, they are deprived of their husks in this country, these being ground up and used for black pepper.

There is reason to suspect the presence of an undue quantity of husk whenever pepper presents a darker appearance than ordinary, and we have seen several samples in which there appeared to be a considerable excess of cortex.

The cortical part of a pepper-berry being firmer and more tough than its central portion, the former in grinding is not reduced to the same state of division as the latter, but its particles are usually much larger. Of this fact we have been informed dishonest tradesmen have availed themselves, and by simply sifting have contrived to make out of common black pepper both the black and white kinds.

On Factitious Pepper-berries.

Some years since it was not uncommon to meet with artificial peppercorns; instances of their occurrence are mentioned in "Thompson's Annals of Chemistry," and also by Accum, in the second edition of his celebrated "Death in the Pot."

Thus Accum writes—"I have examined large packages of both black and white pepper by order of the Excise, and have found them to contain about sixteen per cent. of this artificial compound. This spurious pepper is made of oiled cake (the residue of the linseed from which the oil has been pressed), common clay, and a portion of cayenne pepper, formed into a mass, and granulated by being first pressed through a sieve, and then rolled in a cask."

The period during which this fraud prevailed was probably confined to the time, which expired in 1823, when the duty on a single pound of pepper amounted to no less than 2s. 6d.

New Inventions
IN AID OF THE
PRACTICE OF MEDICINE AND SURGERY.

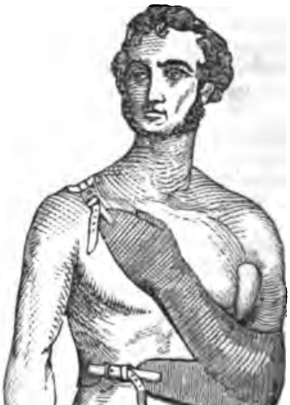
An Apparatus for Promoting Proper Union after Fracture of the Clavicle. By L. Foucart, M.D., &c., London.

In putting up fractures of the clavicle, the shoulder is pushed upwards and backwards, until the ends of bone are brought into apposition, and there retained by fixing the arm and elbow to the chest, against the counter force of a pad in the axilla. This is usually effected by means of a complicated series of turns of the ordinary roller, which is liable to the following objections:—First, it demands considerable practice and dexterity to apply it properly; second, it necessitates the assistance of at least one other person; third, within a few hours the fibres of the cloth yield to the tension, so far as to allow of a slackening of the turns of the roller, and the elbow to slip down so far as to displace the ends of fractured bone above; fourth, the turns of the roller may get ruffled and displaced by the friction of the dress,—hence the almost constant occurrence of riding of the ends of bone in united fracture of the clavicle, which gave frequent occasion for the late Dupuytren facetiously to remark, in his "Clinique," that "to effect a perfect union of the clavicle, without shortening, you must first break one of the patient's legs."

Dr. Foucart, whose apparatus we proceed to describe, remarks—

"Many years ago I introduced what is considered a marked improvement over the linen roller—viz., the use of broad straps of common plaster, which much more effectually retained the parts in immoveable position; but this method is also met by the objections of requiring *time*, a greater degree of manual dexterity, and must employ one or two assistants; besides which, in the country as in the camp, an abundance of plaster is not always at hand.

"A few months ago, while passing my long and painful watch of eighty hours at the bedside of the late and ever-to-be-lamented Sir Robert Peel, upon the occasion of his fatal accident, his state of continued irritability and intolerance of bandages, again drew my attention to the devising of some more simple method of adjusting such fractures, without subjecting the patient to any disturbance of position, or giving rise to irritation by irregular pressure from the turns of a roller. For the attainment of this end, the following piece of apparatus then first occurred to me, and it has since been tried with such marked success as to warrant my bringing it before the profession."



Description.—"The arm being placed in the proper position with a pad in the axilla, take a piece of gutta percha, sufficiently long to reach from opposite the clavicle diagonally across the chest to below the elbow; across the back to the spine of scapula it should not exceed four inches in breadth at each end, but the anterior portion should increase in breadth backwards to six inches, at the part crossing the elbow, on each side of which a wedge of an inch in length and half an inch in breadth is cut out. The band is then softened in warm water, the broad and notched part adjusted over and under the elbow, and the two extremities are drawn towards the clavicle and scapula of the opposite shoulder respectively; the gutta percha is then kneaded while soft into a half mould of the hand, arm, and elbow; a broad linen bandage dipped in cold water is then drawn tightly over the whole, in order to harden and at the same time produce a smooth surface upon the gutta percha. When sufficiently cool the linen bandage is taken off. Two buckles are attached to one end, with straps to correspond at the other, which may be done by means of solution, or a softened piece of gutta percha kneaded across. Another band of the same material, three or four inches in breadth, is softened in the same manner, one end of which is placed against the sound side, the other drawn across the arm and elbow, (overtopping the elbow strap,) and brought round to the opposite side, where it is cut four inches short of its fellow. The two bands are then kneaded into one piece over the elbow, and similar buckles and straps are attached to the ends, and with those over the shoulder are drawn to any degree of tightness."

Dr. Foucart remarks, concerning his invention—

"The advantages obtained by this apparatus over all preceding ones are—

1. That it can never stretch; therefore the ends of the fractured clavicle will be retained in constant apposition.

2. Pressure being equal throughout, and over a large extent of surface, neither pain nor irritation need be apprehended; the hand, arm, and elbow resting within their own moulds, so to speak, there can be no danger of swelling of the extremity, and consequently no need of bandaging.

3. It can be fixed on or taken off, and any degree of general tightness obtained, in half a minute, and without the aid of a second party.

It is cheap and durable; one moulded upon a large man may serve for hundreds of cases, the mould only requiring to be more or less stuffed with cotton wool.

5. It does not fetter the muscles of the thorax so much as the ordinary roller; and it allows the dress to be slipped off and on without danger of displacement.

6. It is much more clean and comely than any form of bandage, and may be stained of any colour.

It is therefore evident that such an apparatus must effect a great saving of time and money, particularly in hospital practice, because two or three moulds may serve for many hundred cases, and from facility of application it may effect considerable saving of the surgeon's valuable time. I have employed it on two private patients; also among several patients in one of the hospitals; and a military surgeon has just made trial of it. The results have all been so happy as to warrant my having communicated the invention to the Gutta-Percha Company, in Wharf-road, City-road, who have had moulds made for the purpose. Any practitioner who may feel disposed to give it a trial may have one ready for use by applying to the above company.

Leech-Bite Lancet. By H. C. Stewart, Esq., M.R.C.S.

This instrument, as Mr. Stewart remarks, is designed to supply a desideratum long felt by the profession, more especially by those members who are located in the rural districts, and our isolated colonial possessions, where leeches are scarce and exceedingly high priced.

It is not expected that this lancet will entirely supersede the use of the leech, but there are times and cases where it may be employed with greater advantage; for instance, when local congestion is accompanied by great depression of the vital powers, as in fevers, &c., blood may be drawn topically by this lancet, without any fatigue to the patient, and with but little trouble to the attendants, which are the usual results of the application of leeches. Every medical practitioner must have observed the great depression and weariness of his patients in such cases, and even when disease is accompanied with less depression of the powers of life. How frequently do our patients complain of being tired out by the tedium of having had leeches applied. In erythematous and phlegmonous inflammations this lancet may be used with good effect, and the readiness with which it may be employed for leeching the gums and the os tincæ will be at once apparent.

The quantity of blood drawn by a leech has been variously stated, as from twice to six and a half times the weight of the leech itself previous to application; and the quantity which flows after the leech is fallen off is much greater. This latter fact should never be lost sight of.

The temperature of human blood in its fluid state is from 96°F. to 98°F. Blood may be coagulated by heat and cold; consequently, to promote the bleeding of a wound, whether the result of a leech-bite or the prick of a lancet, we should employ a temperature but little below, and never above, that of the circulating fluid itself; say from 85° F. to 90° F.

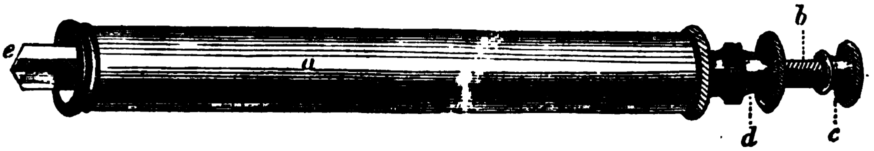
Keeping these facts in view, we may pass on to the consideration of the lancet itself, and its mode of application.

The advantages to be derived from this shaped lancet are, that it will make a wound of the same size throughout its whole depth; is not likely to be choked by the blood issuing from it; and by not being more pointed, the danger of erysipelas, which frequently follows punctured wounds, will be less likely to occur.

Its application is very simple. Having adjusted the lancet to the required depth, by means of the moveable nut or stop upon the shaft, hold the instrument in an upright position firmly with the left hand upon that part to be leeched; then make pressure with the thumb of the right hand upon the end of the lancet-shaft, forcing it downwards to the nut or stop; this done, withdraw your thumb, and the lancet will return into its case, leaving a wound of this form **T**. A number of wounds may be clustered together, or more diffused, at the will of the operator, each wound corresponding to and answering for one leech. A dozen wounds may be made without difficulty in as many seconds. Dress the wounds with fomentations or poultices at pleasure; and if the temperature of the dressing is properly attended to they will bleed freely.

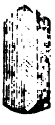
Mr. Stewart says, "Mr. Stevens, of Gower-street North, has ably carried out my intention, and has most satisfactorily produced a neat and serviceable instrument, which may be obtained in gold or silver plated cases."

Fig. 1.



a. Case.
b. Lancet shaft.
c. End of Lancet shaft.
d. Moveable nut or stop.
e. Lancet protruding.

Fig. 2.



The Lancet.

Anatomical Models in Gutta Percha. By GEORGE SIMPSON, Esq., jun., Surgeon, London.

MR. G. SIMPSON, of Bedford-street, Bedford-square, has forwarded to us a coloured gutta-percha model of a section of the human head. Mr. Simpson states he is preparing a full-length anatomical figure of the same material for the Great Exhibition, and that he is the first individual who has applied gutta percha for anatomical models.

The advantages which this material has over papier-machè, wax, or plaster, is, that objects formed from it may be freely handled without being broken, and being painted in oil colour, models such as that forwarded to us can be washed when soiled. The external side of the head, with the several vessels and nerves in relief, is more particularly deserving of commendation; the interior represents the contents of the cranium and other parts of the head and face as cut through in the median line.

The Electric Rubber.

Mr. LUDLAM, of Oxford-street, has forwarded to us a specimen of a towel, to which he has given the above title. It is composed principally of flax, and is very well adapted for the purposes for which it is intended to be used—namely, to create rapid and healthy circulation of the blood on the surface after bathing.

Fine Arts.

WE have received a large engraving, entitled, "*Harvey demonstrating to Charles I. his Theory of the Circulation of the Blood.*" It is from a painting by Mr. R. Hannah, and engraved in the highest style of "line" by Mr. H. Lemon. The publishers are Messrs. Lloyd Brothers & Co., of 22, Ludgate-hill. It is indeed a splendid production, and does great credit to the artist, the engraver, and the publishers.

The object of this work is, by furnishing a pictorial record of an incident in the life of a great man, to extend a knowledge of one of the greatest discoveries in science, and to keep alive in the hearts of all who admire genius, gratitude to the memory of one of the greatest benefactors of mankind. Nothing seems now to be more easier, or more readily understood, than the great and important function of the heart; but until the time of Harvey, it was involved in the greatest obscurity, and mixed up with all manner of contradictory absurdities. And yet before his time many things were made out; the pulmonary circulation was understood, and several other essential points had been established; still the great inference had never been drawn; so often are we on the very threshold of a discovery, which by some fatality we miss; and when it is at length made, we have only to express our astonishment that we were so marvellously purblind as to overlook it. The same services which Newton rendered to optics and astronomy, by his theories of light and gravitation, Harvey conferred upon anatomy and medicine by his true doctrine of the circulation of the blood.

Harvey was treated by his unfortunate royal master with regard and favour; and the attachment to arts and sciences, which formed a conspicuous part of the king's character, contributed to promote and encourage the pursuits of the philosopher. Charles's passion for stag hunting enabled him abundantly to supply Harvey with animals for dissection; and the king, with some of the noblest persons about the court, were frequent witnesses of the experiments.

After the death of Charles, Harvey withdrew from the world, and passed his time in retirement, in a house he possessed at Combe, in Surrey, where there was pure air and a pleasant prospect. But, to indulge a *penchant* he had for being in the dark, he caused caves to be made in the earth, in which in summer time he gave himself up to meditation. In this seclusion he prepared for publication his second great work, entitled, "Exercitations on the Generation of Animals," which had employed his time for nearly twenty years. His immortal "Treatise on the Circulation of the Blood" cost him twenty-six years to bring to maturity. His discovery was ill received.

The epithet *circulator*, in its Latin invidious signification (*quack*), was applied to him by many in derision, and his researches and discoveries were treated by his adversaries with contempt and reproach. To an intimate friend he himself complained, that after his book came out, he fell considerably in his practice; and it was believed by the vulgar that he was crack-brained; all the contemporary physicians were against his opinion, and envied him the fame he was likely to acquire. That reputation he did at last enjoy: about twenty-five years after the publication of his system, it was received in all the universities of the world; and Hobbes has observed, that "Harvey was the only man, perhaps, that ever lived to see his own doctrines established in his life-time."

He died in 1657, and was buried on the 26th of June of that year. All the fellows of the College of Physicians attended his funeral.

The scene of the picture is Harvey's apartment in the palace. The king is seated in the front of the picture. The courtier who stands behind him, with his hand familiarly resting on the back of his chair, indicates the attachment and devotion of the cavaliers in those times of danger to the king. The skull and the nearly-spent hour glass behind this group may have a meaning to the moralist. The close proximity of the young prince to the philosopher indicates the gentle character of the man, and the inoffensiveness of the operation. The prince has suspended the perusal of Harvey's favourite author, for the greater excitement of his friend and tutor's demonstration. The extreme fondness for anatomical studies which in after life characterized both Charles II. and James II. is thus explained.

The courtier behind is one of that class of gentlemen who, in reference to the advancement of social and philosophical conditions, "cares for none of these things;" he is permitting himself to be entertained by some of Harvey's opponents. These are incarnations of pedantic bigotry and stolid imbecility—the two great opponents of scientific progress—who, by insult and obloquy, show their hatred of him who dares, by asserting truth, unsettle their long-cherished absurdities.

We cannot speak too highly of this magnificent picture. The quiet and scientific manner in which Harvey is represented demonstrating his theories, is characteristic of a man only who is perfect master over the doctrines that he is endeavouring to promulgate. The artist has taken great pains to preserve the likeness of Harvey, and was guided by the excellent portrait by Cornelius Jansen, in the College of Physicians. This notice cannot be concluded, without suggesting that the engraving ought to be in the possession of every admirer of the immortal Harvey.

THE FLAXMAN GALLERY.—The Council of University College some time since appropriated the hall under the dome of the College and two vestibules to the reception of works of Flaxman which remained in his studio at the time of his death. These plaster casts from the original clay models were presented to the College by the executrix of Flaxman, Miss Maria Denman.

Miscellaneous Correspondence.

ON KOSSO.

To the Editor of THE LANCET.

SIR,—I am happy to see that the Kosso is at length attracting the attention of the medical profession in Europe. Having, when attached to Sir William Harris's mission to Shoa, resided nearly two years in Abyssinia, where it is in constant use as an article of domestic medicine, I trust I may be allowed to add my testimony as to its safety and efficacy, under common care, as an anthelmintic. On our return to India we brought more than half a camel-load of the seed and dried flowers of Kosso with us, which I believe was forwarded by the Indian government to England.

I add an extract from my "Medical Report to Government on the Kingdom of Shoa," which was published in the *Transactions* of the Medical and Physical Society of Bombay, for the year 1843:—

"The next disease deriving importance from its extreme prevalence in Abyssinia, is the Tænia Solium (called *wosefat*,) which species of intestinal worm attacks all classes, and there are very few natives who are exempt from them. By themselves it is attributed to eating brindo or raw flesh, and they assert that those who abstain from this diet are free from the complaint, but that if it once makes it appearance it is seldom eradicated; the Abyssinians retaining the opinion that each joint is capable of reproducing a perfect worm.

"Fortunately the country which is so peculiarly the seat of this disease possesses a most efficient remedy in the flowers of the Kosso, which tree being so indispensable to the health of the inhabitants, is carefully preserved, and a group of them is always found in the immediate vicinity of the villages. This valuable anthelmintic is taken by every individual regularly every two months, children commencing the discipline at the age of five or six years, and continuing it for the remainder of their lives. This frequent and indiscriminate use, however, gives origin to serious complaints, of which prolapsus ani is the most common; the great exhaustion following its violent action, when injudiciously administered, sometimes even terminating fatally. The continued use of this drastic purgative, though necessary to the preservation of health, must tend to shorten the natural period of existence, for the Shoans are not a long-lived race, and instances of advanced old age are rarely met with.

"Kosso (*Hagenia Abyssinica*,) when in maturity, attains the growth of a moderate sized tree, its red racemes of blossom much resembling in form and distribution those of the horse chestnut. These flowers are first dried in the sun, and all stalk and extraneous matter carefully removed, and are then pounded fine. The dose varies from six to eight drachms weight, according to the quality of the drug and strength of the person, and is drank early in the morning in a cupful of cold water; if kept mixed for any length of time is power is said to become deteriorated. It usually acts in the course of a couple of hours, the first evacuations being watery, and the worm generally expelled by the third or fourth; during the time of its operation, abstinence from food or drink is enjoined, but afterwards in the evening, the patient is directed to eat freely of hot spiced dishes, and to drink mead or beer. Should five or six hours elapse without indication of the medicine having taken effect, it is recommended to eat a full meal seasoned with hot condiments, which is said to quicken its operation.

"A favourable opportunity occurred of trying the effects of Kosso on a European soldier of the escort, who was troubled with the lumbricus teres, on whom it acted mildly and effectually. Should it be considered a desirable addition to the materia medica of Europe, a plentiful supply of Kosso might be easily obtained at Massowah on the Red Sea, from the merchants of Abyssinia who visit that port, which is but a journey of five or six days from the country of its growth; or, as it appears of a hardy character, and the climate of Abyssinia seems favourable to northern vegetation, the tree itself might perhaps be successfully introduced, by seed, into Europe."

R. KIRK, Surgeon,
Rajkote, Dec. 10, 1850. 2nd Bombay Light Cavalry.

THE EFFICACY OF KOUSSO IN THE EXPULSION OF TAPE-WORM.

To the Editor of THE LANCET.

SIR,—I have subjoined the two following cases of the efficacy of kousso in the expulsion of tape-worm, which you may perhaps think of sufficient importance to give insertion in THE LANCET.

About five weeks since a young man, named W——, a shoemaker at Slough, applied to me at the Royal Dispensary at Windsor with tape-worm. He had suffered with it for several years, and had repeatedly taken turpentine, but he could bear it no longer on his stomach, and various anthelmintics from regular practitioners and quacks, the effects of which were violent purgation and the ejection of portions of the worm only. I directed the kousso to be procured, and wishing to follow exactly Boggio's directions, I had the young man at my house when I administered it. Unfortunately, after he had swallowed it about two hours, he vomited it from his stomach; but so great had been his sufferings from the presence of the worm, and so determined was he to expel the enemy if possible, that he again manfully swallowed the dose thus rejected. By keeping him in bed, and administering some brandy and soda-water, he succeeded in retaining it on his stomach. In about five hours afterwards, by the aid of a seidlitz powder, the worm was expelled entire. Its length was about six yards. I saw him during my rounds to-day in excellent health.

The next case, G——, aged about thirty, a tailor, also from Slough, applied also to me at the dispensary. I gave him the kousso in a similar manner at my own house. He declared he did not mind the taste of the kousso in the least. In little more than three hours after a seidlitz powder he voided entire a tape-worm measuring nine yards. This patient, as the former had done, had taken repeated doses of turpentine and other strong anthelmintics without any benefit. He declared that the kousso was not nauseous to him, nor did it produce any inconvenience whatever.

I am at present attending a young female suffering from phthisis, and who has been the subject of that fatal malady in a chronic form for years. Occasionally her sufferings became acute, and she then applied to me for medical aid, and she was so far recovered as to be able to resume her usual domestic duties. This patient afterwards consulted a medical man, who referred her symptoms to the presence of tape-worm, and administered calomel and turpentine in frequent and large doses. Lymph of a plastic nature was evacuated from the bowels, which was thought to be portions of a tape-worm. The calomel and turpentine have roused up the hectic in this young woman, and so destroyed her strength, that she will never rally again.

I was recently attending in a family, where one of its members, a daughter, had recently died with many anomalous symptoms. The presence of tapeworm was suspected by the medical attendant. He administered what was supposed to be male-fern. A vomiting of blood ensued, and in a few days afterwards her death.

From the repeated trials which have now been made of kousso, it results unequivocally, that it is *a sure* destruction to the worm, and perfectly innocuous to the human frame, so that it may not only be given with the certainty of destroying and evacuating the worm when known to exist, but also that it may be safely given in cases of doubt and difficulty where the presence of a worm may be only surmised. I doubt, since the discovery of the Peruvian bark, whether so useful a substance has been added to our materia medica. I am, Sir, your obedient servant,

G. Pearl,

Visiting Surgeon etc. to the Royal General Dispensary at Windsor.

THE KEY-TSE-SING, OR JAPANESE EMMENAGOGUE.

To the Editor of The Lancet.

Sir,—May I request the favour of your inserting the following cases of the succesful use of the above remedy in my own practice, and at the same time allow me to inform the medical officers of public institutions, that I shall be happy to forward them sufficient for a more extended trial upon being apprised of their wishes.

I should also feel obliged by the gentlemen in private practice who have been supplied through your former announcement, communicating the results to me at their earliest convenience, but I must inform several correspondents that their notes remain unanswered from their directions being undecipherable.

I have the honour to remain, yours, very truly,

Edward Williams, M.D.

Upper Clifton-street, Finsbury, March, 1851.

Case 1.—Miss W. L—— applied to me, September 6th for relief from severe attacks of hemiplegia and hæmatemesis, which had existed for several months, and was referred to cessation of the menses from catarrh, in March last. She had been under several practitioners, who had prescribed both lotions, mustard-cataplasms, and aloetic and steel purgatives, with little or no amelioration of the symptoms, and with no effect upon the uterine functions. I therefore put her under the influence of key-tse-sing, and in four days from its employment, the catamenia appeared, and flowed normally for three days, with considerable diminution of the previous symptoms. The effects produced before the catamenia appeared were slight retching and purgation, with a sense of bearing-down.

At the following menstrual period, I advised her to take a few doses of the remedy; the result was as wished, and she has since been regular, while the head and stomach affections have ceased to annoy.

Case 2.—The daughter of a clergyman, in Berkshire, was sent up to town to consult me in October last. The history of her case was, that two years since, menstruation, which had been previously regular, ceased, without any assignable cause, and that contemporaneously her mind became affected to so great a degree that temporary seclusion was advised and adopted, but all other secretions were in a generally healthy state. Various eminent practitioners were consulted, and many plans of treatment adopted, with little benefit to the mental malady, and with no advantage to the secretive functions. I recommended the continuance of the local treatment, and the exhibition of the key-tse-sing, a few days before the next catamenial period. The result was, a scanty flow for a few hours, which seemed to have a slightly beneficial effect; but suspecting that habits of masturbation had been indulged in, I suggested a plan to obviate the same, and a recource to the remedy at an interval of three weeks, which was attended to, and the result has been most satisfactory, the catamenia being tolerably profuse and regular, while the irritability, waywardness, and suspiciousness have considerably decreased, and she has begun to devote some of her time to those objects and amusements indicative of returning rationality.

Case 3.—Mary W——, aged twenty, a domestic servant, consulted me Oct. 21st. She stated that she had never menstruated, and had been subject to fits since the age of fourteen, which had caused her the loss of several situations. Her appearance indicated good health, and all the other secretions were normal. She had taken various popular remedies, and had been a patient at two of the metropolitan hospitals, without any alleviation; in fact the fits had increased in frequency and duration. She stated that she had never known any of the usual symptoms of menstruation, and as there was no tumefaction of the abdomen indicating retention, I was very doubtful if the key-tse-sing would be of any use, but determined to give it a trial, as the patient resided in the neighbourhood, and I could watch its effects. I therefore desired her to take four drachms every four hours, which caused severe vomiting and purging after taking eight doses. I then abstained for twenty-four hours, and commenced again with three-drachm doses every eight hours. The same results occurred in a diminished degree, with the addition of severe darting pain across the back, and along the course of the suspensory ligaments, and a sense of weight and bearing-down, which was followed on the fifth day by a pale catamenial discharge. On the seventh day after the menstrual appearance she had a slight fit, and on the recurrence of a monthly period I administered three-drachm doses twice a day; these had the effect of establishing the secretion, which since, with one exception has flowed regularly, and she has also entirely recovered from the epileptic attacks to which she had been subject.

THE PATHOLOGY OF SEA-SICKNESS.

To the Editor of The Lancet.

Sir,—In the *Observer* newspaper some time since, under the head "Cause and Cure of Sea-Sickness," there is mention of a paper lately read before the French Academy of Medicine, with the approval of Majendie and other distinguished physicians, in which sea-sickness is said to "depend upon the movement of the intestinal canal, which floats as it were on the abdomen. It descends with every movement of the vessel, and then ascending, pushes up the stomach and the diaphragm." Should you find time, Sir, to look over the few lines which are here transcribed from the work of an English physician, you will probably see reason to maintain, with me, that in the Clinique of the *Mal du Mer*, Britannia rules the waves. The passage is extracted from pages 122, 123, of a small volume on "Spasm" and other disorders of the muscle, published by John W. Parker, West Strand, in April, 1843.

I am, Sir, your obedient servant,

London, 1851. Ægronaut.

"As the principal stays and binders of the human frame, the abdominal muscles, are employed unceasingly in supporting weight, and resisting pressure from all that is lodged within the chest and belly, by their thoracic attachment they directly influence the business of the chest under all circumstances of disease. Beneath the diaphragm, should they fail in their supporting power, the functions of the several viscera are no longer healthy or complete. Let any one suddenly withdraw the support given by his hand to the lower part of the abdomen in his own person, and by the sense of what falls within, he exactly measures the degree and extent of the internal pressure. Sea-sickness, there is reason to believe, is in this way occasioned by want of tonic resistance in the abdominal muscles to the passive weight of the collected viscera suddenly disturbed in their respective positions, and gravitating with the motion of the vessel. By continual practice in this duty of ready adjustment to a varying centre, the seamen at length learns to command his stomach while he 'finds his legs.'"

CHEMICAL MEANS FOR THE PREVENTION OF BED-SORES.

To the Editor of The Lancet.

Sir,—I wish to communicate to my professional brethren, through the medium of your journal, a very simple means of preventing the urine of persons suffering dementia, paralysis, &c., which is usually passed involuntarily, from excoriating their skin, and producing extensive and sloughing sores.

To those in charge of large establishments for the insane, of general hospitals and workhouses, these sores are often most painful to witness, most difficult to manage, and tend to the rapid destruction of the patient. They are commonly supposed to arise from the pressure of the sacrum and other prominent parts, in the long period of the recumbent posture: but I am satisfied that though this may be an assistant cause, the main one is the irritating quality of the urine, with which the clothes of the patient and of his bed become wetted; and which rapidly decomposing, excoriates the skin by the ammonia which is disengaged, and which keeps up a distressing irritation afterwards, leading to the bed-sores alluded to.

To prevent this has long been a desideratum; and the success of the method I now make use of has been most gratifying to me, and to several friends who have witnessed its results.

The principle of the plan is to make use of a medium which will absorb the ammonia of the decomposing urine, without injuring the skin in return, and this I effect by the aid of dilute sulphuric acid. The application of the method is the following:—

I have a case made of soft linen, large enough for the buttocks of the patient when lying on his back to rest upon, and to extend a little way down the thighs, and on each side of him. These cases I stuff with bran (previously sprinkled with dilute sulphuric acid) to such a degree as to make an easy cushion, which receives the urine as it dribbles from the patient, the ammonia of which is absorbed by the sulphuric acid, and the skin is left uninjured by the urine.

The proportion of dilute sulphuric acid to the bran, I find to be about two ounces of dilute acid to one quart of bran, by admeasurement. The dilute acid is that of the pharmacopœia, and the quantity will be found not to wet the case of the cushion, and only to make the bran itself feel in a slight degree moist.

The same quantity of bran put into a fresh case, and sprinkled with a little fresh acid, I have found serviceable and inoffensive for several days, but I should advocate its being renewed every alternate day, at least.

To persons able to walk about and incontinent of urine from the many causes occasioning it, I have found the same means productive of the greatest comfort, by sewing a small bag of the prepared bran to the side of the trowsers on which the penis is worn. I use the same application (substituting deal sawdust for bran, for economy's sake) on the floors of those of the insane who *will* be wet and dirty in their bed-rooms, in the urinals of those patients whose urine is disposed to rapid decomposition, and to occasion oppressive effluvia in the bed-chamber, in the water-closets, &c., indeed, wherever ammonia is disengaged, and renders the air of the chamber oppressive.

But its valuable application is in the prevention of bed-sores, and I could give many cases illustrative of the fact, but they would crowd your pages unnecessarily. If our brethren will give the method a fair trial they will save themselves an infinity of anxiety, and their patients an inconceivable amount of suffering.

I am, Sir, faithfully yours,
Samuel Hitch.

THE EMERGENCE OF NEEDLES FROM THE SURFACE OF THE BODY.

To the Editor of The Lancet.

Sir,—The question of whether needles emerging from the surface of the body have been swallowed, or introduced at the point where they are taken out by the surgeon, seems to be an all-important one at the present moment, by the number of letters on the subject which has appeared lately. I confess that the former does not appear very clear to me: I will not say that such an occurrence is impossible, but I do think that it is highly improbable; and the following reasons suggest themselves to me:—Where the needles are several in number, the patients are, I think, invariably females, (probably hysterical ones;) and yet it is to be presumed if females sometimes accidentally swallow a lot of needles, that journeymen tailors may occasionally be subjected to the same accident. Secondly: The patients do not generally feel the needles till they get into such a position that by making a slight opening they can be removed; and yet, if swallowed, they must have penetrated some highly sensitive parts to have got into such a position; and how the vessels and nerves should invariably escape under such circumstances seems to me a mystery; and yet I apprehend that the nerves do escape, otherwise we should have more pain, and probably spasm of the part. Then again, although it is an easy matter for a sharp needle to penetrate the various tissues, yet I imagine that the gastric juice, or the fluids of the body, would so corrode it that it would no longer easily pierce these parts.

Lastly: It seems an extraordinary thing that some of the more important organs should not sometimes become inflamed by the presence of an extraneous body, during the passage of a needle through them: for however small the puncture, I do not think that it must be invariably harmless. Indeed I know of one instance, in which a young man pushed a needle directly backwards in the region of the heart: he died of inflammation of that organ; and upon a post-mortem examination, the needle was found penetrating it. Now, if inflammation follows when the needle is introduced into an important organ from without, why should it not when introduced from within, as when swallowed? Again, why are not needles more frequently found in organs when we make post-mortem examinations? If ever they are found, they always appear to be in organs near the surface, rendering it probable that they got there from without.

Some months since, Mr. Lawrence, jun., of Brighton, removed a hair-pin from the bladder of a girl; and there are several other instances of foreign bodies being removed from the same part, such as slate and lead pencil, pieces of catheter, &c. Perhaps these old authors would have said that these had been swallowed.

I have on several occasions removed needles from the surface of the body, and once had an opportunity of watching a case in which above thirty were removed, and the girl accounted for it by saying that she swallowed a paper of needles some years previously, and yet I am told that a paper contains only twenty-five.

Where there is only one needle, it is possible to have got under the skin without the knowledge of the patient; but where there are several, I look upon it that the patients are impostors; and after the extraordinary attempt at imposition practised by a patient, with hydrochloric acid, in the Brighton Hospital, a short time since, there does not appear to be any limit to its extent.

I am, Sir, your obedient servant,

QUÆSTIO.

SALUTARY EFFECTS OF VACCINATION.

To the Editor of THE LANCET.

SIR,—I was much interested in your report of the discussion on small-pox at the Royal Medical and Chirurgical Society. Should you think the accompanying statement of any interest to your numerous readers, perhaps you will kindly publish it.

I am, Sir, your obedient servant,

WILLIAM DAVIS, M.R.C.S., &c.

A medical friend of mine, residing in this parish, in which I hold the poor law medical appointment, kindly informed me, on April 27, 1850, of a case of small-pox under his care. This being the first case in my district, and finding others of the family had not been vaccinated, he begged me to procure lymph, and perform the operation. I had those that were to all appearance well, immediately separated, and procured lymph as soon as possible from the National Vaccine Institution. Two others had sickened before I obtained it.

I vaccinated from points two children that were playing about, to all appearance perfectly well—a girl, aged six years; a boy, aged eight years: this was on May 4. The former, on the fourth day after vaccination, sickened for small-pox, had the confluent form, and died. The vesication in the arm of the boy went on most favourably; but ten days afterwards, (May 14,) variolous eruption, in a very modified extent, appeared; so that the pustules on the whole body did not amount to thirty—six appearing on the tongue. He had not a symptom of variola, with the exception of the eruption.

The cases stand thus:—

A boy, aged twelve; vaccinated in infancy. (Did not have variola.)

A girl, aged four; vaccinated at two years old. (Did not take variola.)

A girl, aged ten; vaccinated in infancy. (Caught variola, and brought it to the house, but had it extremely light, with scarcely any symptoms.)

An infant took it from the girl, and died. (Never had been vaccinated.)

A girl, aged two years and a half, next took it. (Never vaccinated, but recovered.)

A girl, aged seven; and a boy, aged eight years: both vaccinated during the time three had sickened for variola in the same house. The girl took variola, the eruption appearing on the fourth day after vaccination, and died in the confluent form. The eruption appeared on the boy on the tenth day; he had it remarkably light. The disease did not spread beyond the house.

ON THE AFTER-TREATMENT OF MR. SYME'S OPERATION FOR DIVISION OF STRICTURE OF THE URETHRA.

To the Editor of THE LANCET.

SIR,—I trust you will give space in the valuable columns of your paper for the following observations on the treatment of stricture of the urethra. It is not on the practicability of the operation as performed by Mr. Syne, which has already been so much disputed, and as I think admits not of a doubt both of its practicability and its permanent curative effects if its after-treatment be properly attended to. It is to this all-essential point I wish to direct the attention of surgeons. It is the object of most men of the profession to procure as speedy a recovery as possible for their patients after operations, by allowing adhesions to take place by the first intention; and the practice I doubt not to be a good one in most cases; but there are always exceptions to a rule, and this exception I wish to call the attention of the profession to in this operation—viz., that in all cases union ought only to be sought for by granulation, and not by adhesion, and to this sole cause I think has been the return of the stricture after operation; for it is only reasonable to suppose that a part once prone to such submucous thickening would be more liable to relapse when contraction by adhesion has taken place. On the other hand, if you allow the catheter to remain in longer, and keep the edges of the wound apart with lint, and allow it to granulate from the bottom, you let in a piece of new material (like a wedge,) thereby preventing the least chance of re-contraction of the parts, and I doubt not cutting off the local tendency to stricture; by so doing, not only conferring a permanent benefit on the patient, but credit to the operator. These observations I only suggest to the profession, and will now leave it for them to decide on the preferable mode of treatment.

I am, Sir, your most obedient servant,

JOHN WILLS.

TRANSMISSION OF IMPRESSIONS BY THE SPINAL MARROW.—M. Brown Séquard recently read a paper before the Academy of Sciences at Paris, wherein he maintains that this transmission is carried on in a decussating manner—viz., that the right half of the medulla spinalis transmits, in a great measure, the impressions received on the left side of the body, and *vice versâ*. He rests his opinion on the following experiments:—One lateral half of the spinal marrow of an animal belonging to the mammalia was cut across opposite the tenth dorsal vertebra, and the hind limb on the same side was found not only fully alive to sensation, but more so than in the normal state; whilst the corresponding limb on the other side possessed the faculty of sensation in a less degree than in the usual condition. When the same hemi-section is made opposite the third cervical vertebra, both the fore and hind limb of the same side seem to be more sensitive than is normally the case; whilst the limbs on the other side are less so. If a few complete sections along the lateral half of the marrow be made, sensation remains unaltered on the divided side, and is almost lost on the other. M. Brown Séquard maintains that it is principally in the medulla that the decussating of sensitive fibres takes place; and that, if there are any such fibres which, arising from the limbs, rise up to the brain, there to effect their interlacement, these must be in a very small number.

LETTSOMIAN LECTURES.—Dr. G. Owen Rees will deliver the Lettsomian Lectures before the Medical Society of London, on May the 7th, 15th, and 21st.

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